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Practical Pharmacy Edition

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Editorial

ENFORCING WAR ORDERS

IT MUST be apparent to every pharmacist that it would be a physical impossibility for the Government to enforce its "war orders" issued by WPB, OPA and other agencies to the extent of compelling complete compliance. A number of prosecutions can, and undoubtedly will, be brought to curb flagrant violators and to serve as warnings to others, but the task of maintaining adequate checks to see that quinine is sold only for antimalarial purposes, to make sure a used tin tube is received for each tube of toothpaste or shaving cream that is sold, or to see that price ceilings are observed would be too tremendous even to be contemplated.

This does not mean, however, that the restrictive orders emanating from Washington will be ignored by pharmacists. On the contrary, the evidence thus far indicates that members of this profession are ready and willing to go even further than the actual language of the orders demands. Although the quinine order exempts stocks of less than fifty ounces which individuals had on hand on the effective date, pharmacists generally are observing the obvious *intent* of the order, namely, to conserve quinine, and they are refusing to dispense their present stocks of this drug except for antimalarial purposes. Some pharmacists have volunteered to return unopened packages of quinine to their wholesalers. Such actions demonstrate a sincere sense of responsibility on the part of the individuals concerned and a real understanding of the critical problems being faced by this country. It is reported that a shortage of quinine lost The Battle of Bataan and it is within the realm of possibility that before this war is over it may be necessary to commandeer stocks of this drug from the prescription rooms of retail pharmacists above the Mason and Dixon line who need little of it for antimalarial purposes. Every ounce of quinine which is wasted to-day may cost the lives of fighting men to-morrow. Foresighted pharmacists, voluntarily conserving their stocks of this drug to an extent greater than they were ordered by WPB, may eventually contribute more to victory than even they themselves realize to-day.

In contrast to such pharmacists there are others who perhaps haven't taken the time to think these matters through and realize how helpful they can be to the war effort if they will worry less about the actual language of war orders and govern themselves, instead, by their intent. No one claims that the orders being issued by Governmental agencies are flawless; no one who knows the tremendous pressure under which these agencies are operating expects them to be perfect. Their intent is clear, however, even though their phraseology sometimes may be a bit confusing.

There will always be those who revel in picking flaws and who will be able to think up unusual instances in which the application of a price order or a restriction on the use of a drug would be a bit puzzling. A misplaced comma or an ommited word in the official text of a regulation is their signal to ask a score of questions concerning interpretation. Most of their questions can be answered in either of two ways under the wording of the order, depending upon whether the individual is seeking to conform

to the regulation or is trying to evade it. If he wished to carry out the obvious intent of the order, his course of action is clear. If he is trying to find a loophole through some technicality, on the other hand, he can usually succeed.

There are other individuals, fortunately in the minority, who feel that pharmacists should be exempt from all restrictions and who criticize their pharmaceutical associations because pharmacists were not excepted from the tire rationing order, the gasoline restrictions, the sugar quotas and even the General Maximum Price Order. Pharmacists are professional men to be sure, but "professional" and "privileged" are not synonymous and this ASSOCIATION, at least, has never conceived it to be its duty to act as a pressure group in an effort to relieve pharmacists of their just responsibilities. In every conference with Government officials in which this ASSOCIATION participates, its representatives voice the eagerness of pharmacists to carry their full share of responsibilities in the war effort and their willingness to make any sacrifices that are necessary to victory. If by going without tires and gasoline, getting along with 70 per cent of his sugar needs and restricting the dispensing of certain drugs and pharmaceuticals the pharmacist can serve the nation which, after all, is merely serving himself, we are confident that he will accept the inconveniences without reservations.

Although the Government may not be able to enforce its war orders, the profession of pharmacy itself can do the job in so far as regulations in this field are concerned. It can do it by developing an *esprit de corps* that will not countenance any infractions of the letter or spirit of such orders. No laws or regulations can be enforced if they are not supported by the rank and file of those whom they regulate; the experience of prohibition proved that. On the other hand, laws and regulations which are wholeheartedly supported need little enforcement for the weight of public opinion enforces them. If pharmacists generally will develop an aroused spirit of patriotism in support of their government and the orders it issues, no policemen will be necessary. If pharmacists will make it extremely unpopular for any one to try to "cut corners" or evade regulations, few, if any, will attempt it.

No punishment is too great for the man who betrays his country during wartime for he is endangering the welfare of his fellowman. Violation of the quinine order, the tin tube order or the maximum price regulations must be considered as vicious as sabotage.

Pharmacy, since time immemorial, has been bound by a Code of Ethics which represents voluntary compliance with restrictions and regulations which are far more exacting than actual pharmacy laws. The same social consciousness among pharmacists which has made conformity with such a code a requisite to practice the profession is now needed to support a *Code of Wartime Ethics*.

Paragraph No. 1 of such a code might well be "*I will consider any one . . . fellow pharmacist, wholesaler or manufacturer . . . who violates the spirit or letter of orders issued by my Government as one who has betrayed his profession and his country and I shall treat him as such.*"

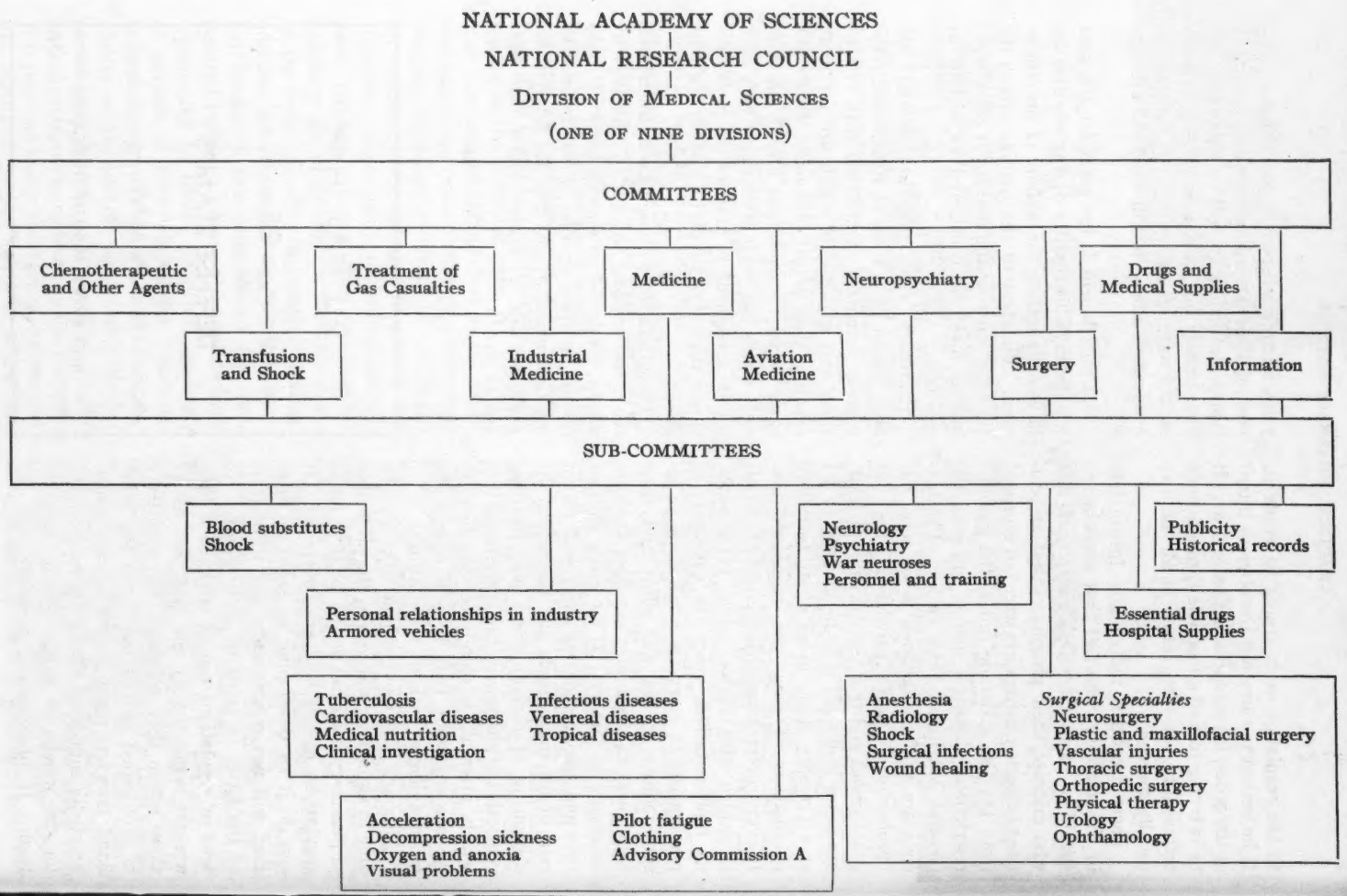
SELL YOUR SHARE

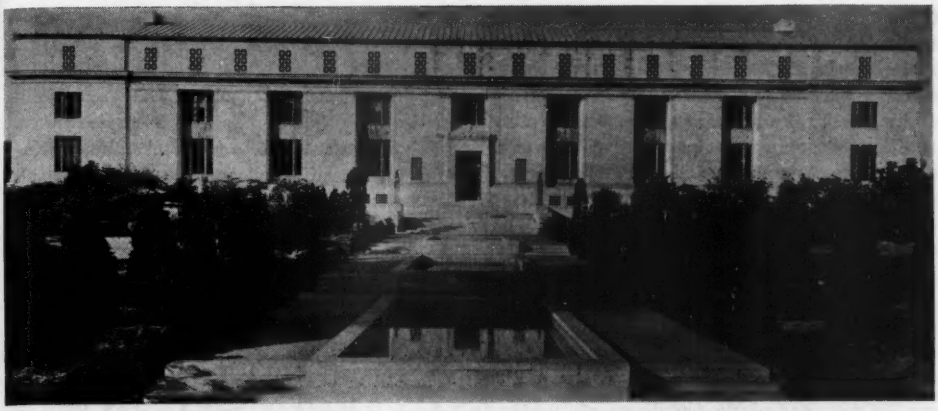
OF

DEFENSE STAMPS

IN MAY

AND EVERY MONTH THEREAFTER


NATIONAL ACADEMY OF SCIENCES
NATIONAL RESEARCH COUNCIL
DIVISION OF MEDICAL SCIENCES
(ONE OF NINE DIVISIONS)
COMMITTEES
Chemotherapeutic and Other Agents
Treatment of Gas Casualties
Medicine
Neuropsychiatry
Drugs and Medical Supplies
Transfusions and Shock
Industrial Medicine
Aviation Medicine
Surgery
Information
SUB-COMMITTEES
Blood substitutes
Shock
Personal relationships in industry
Armored vehicles
Tuberculosis
Cardiovascular diseases
Medical nutrition
Clinical investigation
Infectious diseases
Venereal diseases
Tropical diseases
Acceleration
Decompression sickness
Oxygen and anoxia
Visual problems
Pilot fatigue
Clothing
Advisory Commission A
Neurology
Psychiatry
War neuroses
Personnel and training
Publicity
Historical records
Essential drugs
Hospital Supplies
Anesthesia
Radiology
Shock
Surgical infections
Wound healing
Surgical Specialties
Neurosurgery
Plastic and maxillofacial surgery
Vascular injuries
Thoracic surgery
Orthopedic surgery
Physical therapy
Urology
Ophthamology



Headquarters of the National Research Council and the National Academy of Sciences, in Washington, D. C.

SCIENCE MOBILIZED FOR WAR

HOW THE NATIONAL RESEARCH COUNCIL IS FUNCTIONING TO PROVIDE SCIENTIFIC GUIDANCE TO THE ARMY, NAVY AND OTHER GOVERNMENT AGENCIES IN BOTH THE PREVENTION AND TREATMENT OF DISEASE; AND HOW PHARMACISTS CAN PLACE ITS RECOMMENDATIONS BEFORE THEIR COMMUNITY PHYSICIANS

ABRAHAM Lincoln could hardly have foreseen the methods of modern warfare which are being used in the present hostilities, but his action in establishing the National Academy of Sciences in 1863 to advise the Government on the instrumentalities of war has given this country an effective organization of the Nation's scientists which has never been needed more than it is to-day. The close of the War between the States did not end the need of the Government for the scientific advice and counsel of its scientists however, and the Academy continued as a permanent organization of quasi-governmental status.

Again in 1916, when the United States was faced with probable involvement in World War I, the Academy was pressed into military advisory service by President Wilson. The Academy created a central committee, which it called the National Research Council, and served the Government as the Department of Science and Research of the Council of National Defense, the Science and Research Division of the Signal Corps of the Army, and in a coöperative relationship with other agencies concerned with military and naval problems. At the end of the war President Wilson issued an Executive Order requesting the Academy to perpetuate the National Research Council to promote scientific research and continue to make available to the Government the latest information on subjects pertaining to national defense and public welfare.

Now, once again, the Nation has called upon the National Academy of Science and the National Research Council to mobilize the scientific personnel and facilities of the country for war service. To-day it is engaged in an important task of such proportion that no single institution, society, profession or governmental agency could undertake it. Only by pooling the brains of scientists in all fields and the research facilities of all types of institutions could the challenge be met

NINE DIVISIONS

The National Research Council is composed of nine major divisions, of which the Division of Medical Sciences is one. This Division, now has ten committees on problems of military medicine, in addition to continuing committees on more general medical problems, and numerous sub-

Advisory Commission A
Oxygen and anoxia
Visual problems

committees made up of authorities in their particular fields. These groups study problems and make recommendations to the Army, Navy, Public Health Service Office of Civilian Defense and other governmental agencies and departments. The chart accompanying this article indicates the comprehensive character of this work.

All governmental agencies concerned with the medical sciences have liaison representatives on the various committees and through them the problems are presented. The committees are purely advisory to the governmental agencies in such problems.

Among the problems on which the National Research Council has aided the Government during the past year are the mobilization of medical personnel for the armed forces, the establishment of standards for the physical examination of selectees, the preparation of medical manuals for the Army and Navy and the collection of blood plasma. Committees are now engaged in studies of aviation medicine, tropical diseases, the treatment of burns, the treatment of shock, the control of venereal diseases, the prevention of epidemics of infectious diseases, and Army nutrition.

RESEARCH STUDIES

In addition to advice on scientific matters, however, the Government needs an executive or operating group with financial backing to sponsor research studies necessary to the solution of problems of warfare and defense, and two years ago the National Defense Research Committee (NDRC) was formed by the Council of National Defense to perform this function. This committee is a governmental agency as contrasted with the National Research Council which is an independent organization. The National Defense Research Committee has sponsored several hundred research projects in university and industrial laboratories.

A year ago President Roosevelt established a new, over-all agency known as the Office of Scientific Research and Development (OSRD), to coördinate all defense research. This agency has two major divisions, one of which is the National Defense Research Committee, which continued to function as before, and a second division consisting of a Committee on Medical Research. This latter division works primarilly with the Division of Medical Sciences of the National Research Council in conducting medical defense research.

STUDY OF DRUGS

The newest study to be undertaken by the National Research Council, and one of interest to all pharmacists, is that of the supply of drugs and medical supplies. The study was requested by J. S. Knowlson, Director of Industry Operations of the War Production Board, and a special Committee on Drugs and Medical Supplies of the Division of Medical Sciences has been set up to assume this responsibility.

The committee is headed by Dr. Walter W. Palmer, of New York, Professor of Medicine at Columbia University, and is composed of nine authorities on medicine and pharmacy, including Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The problem of supplying drugs and medicines to the armed forces, to the other United Nations, and, at the same time, allocating sufficient supplies for civilian health needs is both complicated and extremely important. Several agencies of the government are concerned with certain aspects of the problem and some coördinating agency has been sorely needed to pool information and thus enable each governmental unit to perform its duties efficiently. The committee meets with liaison representatives of the government agencies and will serve them in an advisory capacity.

The committee is now engaged in a study of those essential drugs on which shortages have developed. The objective is to recommend, in the case of each drug, whether the shortage can best be remedied by increased production, replacement with other drugs of similar therapeutic action, or by restriction of the use of the drug as has been done in the case of quinine.

RECOMMENDATIONS ON BURNS

Although the studies undertaken by the various committees of the Division of Medical Sciences of the National Research Council are primarily for the guidance of governmental agencies, much of the work can be used to good advantage in the civilian practice of medicine and pharmacy. For example, a committee has been studying the treatment of burns and a report of its work recommending the use of tannic acid and sulfadiazine

in a water-soluble jelly, an emulsion of sulfadiazine and an alternate spray of tannic acid and silver nitrate appears in the current issue of *War Medicine*. The information contained in this report can be very useful to practicing physicians in their therapy of burns.

Because pharmacists should be familiar with the latest facts on such subjects, the recommendations of the National Research Council on the treatment of burns are summarized in a special article on the following pages of this issue of the JOURNAL. This material gives the pharmacist an opportunity to render the physicians in his community an important professional service by calling their attention to the therapies recommended and making available to them the drugs and pharmaceutical preparations used in the treatments.

THE TREATMENT OF BURNS

RECOMMENDATIONS OF A SPECIAL CONFERENCE OF THE DIVISION OF MEDICAL SCIENCES OF THE NATIONAL RESEARCH COUNCIL FOR THE GUIDANCE OF PHYSICIANS

INDICATIVE of the work of Committees of the Division of Medical Sciences of the National Research Council which, although primarily designed for the guidance of the armed forces, can be utilized effectively in the civilian practice of medicine and pharmacy, are the recommendations on the treatment of burns, published by the Division in *War Medicine* for March 1942 (2: 2), 334–339). This article is literally "the last word" in the treatment of burns and pharmacists should familiarize themselves with the information in order to be prepared to discuss the subject with physicians and to prepare the pharmaceuticals required.

A large proportion of burns are sterile or nearly sterile at the moment they occur, states the report, and every effort should be made to maintain asepsis. The patient and others should be warned not to touch the area.

FIRST AID THERAPY

The following five-point program is recommended for the first aid therapy of burns:

(1) Administer sufficient morphine sulfate to relieve pain—an initial dose of at least $^1/_2$ grain if the burns are more than slight.

(2) Inject 500 cc. of blood plasma and keep the patient warm without allowing the blanket to come into contact with the body.

(3) Coat all burned surfaces except the face, hands and genitalia with a water-soluble jelly containing 10 per cent of tannic acid and 5 per cent of sulfadiazine. If such an ointment is not available use tannic acid ointment. Cover areas with sterile gauze. Remove no more clothing than is necessary to expose burned areas.

(4) Burns of the face, hands and genitalia should be covered with a water-soluble emulsion or suspension containing 5 per cent of sulfadiazine. If such an ointment is not available, boric acid ointment may be used. The areas should then be covered with a fine (44) mesh gauze. A firm pressure bandage made of cotton waste or similar material should be applied to the hands. No bandage should be applied to the face or genitalia.

(5) The eyes, if treatment is necessary, should have an instillation of an ophthalmic ointment containing 2 per cent of butyn sulfate. The patient should be warned not to rub his eyes or the cornea may be damaged.

DEFINITIVE TREATMENT

For Shock

1. Keep patient warm but do not apply external heat too rapidly for the sudden warming in the presence of inadequate blood volume may precipitate complete circulatory collapse by opening wide the peripheral blood vessels.
2. Give additional morphine.
3. Give additional transfusions of blood plasma.

If 10 per cent of the body surface is involved, the patient should receive 1000 cc. in the first 24 hours. If 20 per cent of the body surface is involved he should receive 2000 cc.

4. The injection of other fluids such as physiological solution of sodium chloride or dextrose mixtures should not exceed the volume of plasma injected in 24 hours, except in cases of severe hemoconcentration when more can be given.

5. Give transfusions of whole blood when hemorrhage has occurred in a wound which the patient has suffered in addition to the burn.

Treatment of Burned Areas—Except Face, Hands and Genitalia

1. Remove clothing and dressing.

2. If area is covered with grease or oil, cleanse with a suitable detergent.

(*a*) To remove grease use a mild solvent such as lard (pure, salt-free animal lard or a hydrogenated vegetable fat such as Crisco), glyceryl mono-oleate (Glyco Products Co., Brooklyn, N. Y., or National Oil Products, Harrison, N. J.) or a highly purified mineral oil such as Nujol. The solvent is applied by means of sterile gauze pads which are soaked in the material. Rub the area very gently, adding more solvent to the pad and repeat the procedure with clean pads and solvent until most of the grease has been removed. Finally, wash as directed under (*b*).

(*b*) To remove light fuel oil use detergent solutions such as a 5 per cent solution of Orvus (Procter & Gamble); a 2 per cent solution of Ninol-737 or Ninol-400 (Ninol Laboratories); a mild bar soap such as Ivory soap; or a 2 per cent solution of Arctic Syntex, salt free (Colgate- Palmolive-Peet Co.). Use sterile water for the solutions. Apply with sterile gauze pads and rinse area with sterile water or physiological saline solution.

3. Open blisters and excise necrotic epidermis.

4. Cleanse with mild, unperfumed, white toilet soap with pledgets of cotton—do not scrub. Rinse with physiological solution of sodium chloride.

5. Treat surface with two sprays, one containing a freshly prepared 10 per cent solution of tannic acid, the other containing equal parts of a freshly prepared 10 per cent tannic acid solution and a 10 per cent solution of silver nitrate. Spray the tannic acid solution on the area first, followed by the tannic acid-silver nitrate solution. Repeat spraying every $^1/_2$ hour for 4 applications.

Treatment of Burned Areas on Face, Hands and Genitalia

1. Remove clothing.

2. Cleanse area.

3. Apply generously a water-soluble emulsion or suspension, containing 5 per cent of sulfadiazine. If this preparation is not available, boric acid ointment may be used. The areas should be covered with a fine (44) mesh gauze. Pressure dressings should be provided for the hands.

Treatment of Infection Beneath Tanned Surface

After the burn is tanned watch for infection beneath the surface. If suspected, cut a hole in the tanned surface and, if pus is encountered, proceed as follows: Unroof the entire area, cleanse with warm saline and pledgets of cotton, dust on sulfanilamide (not more than 15 Gm. in 24 hours), cover area with saline packs kept moist by pouring on physiological solution of sodium chloride every 3 hours. Dust the area lightly with sulfanilamide when dressings are changed.

Chemotherapy

Sulfadiazine is the drug of choice. Give 1.0 Gm. every 6 hours day and night for 10 days. If patient is not voiding normally (1000 cc. per day), determine the blood concentration of the drug. The dosage should be adjusted downward when a concentration of 10 mg. per 100 cc. of urine is reached. If the urine is completely suppressed, stop the drug and force fluids by mouth, if possible, or give dextrose solution and physiological solution of sodium chloride intravenously.

The report makes no recommendation as to the composition of the "water-soluble jelly" in which 10 per cent of tannic acid and 5 per cent of sulfadiazine are to be incorporated. It would be well to use a gum such as tragacanth to produce a jelly of the consistency of tannic acid jelly. For the 5 per cent emulsion or suspension of sulfadiazine, one of the newer wetting agents might be used.

Omission of exact formulas for the bases gives the pharmacist an opportunity to use his individual talents in developing a distinctive preparation.

DR. EUGENE G. EBERLE DIES

Eugene Gustave Eberle, Editor Emeritus of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, died May 2, at Washington, D. C., at the age of 78 years.

Dr. Eberle was born at Watertown, Wis., June 3, 1863. He studied pharmacy at the Philadelphia College of Pharmacy and Science, graduating in 1884. He returned to Wisconsin to practice pharmacy and later moved to Texas, where he continued in practice and later helped found the Texas Drug Company, wholesale druggists and manufacturing pharmacists. He was one of the organizers of the School of Medicine and Pharmacy at Dallas in 1910 which became part of Baylor University in 1903. Dr. Eberle served as Professor of Pharmacy at the school from 1900 to 1915 and as Dean of the College of Pharmacy from 1903 to 1915. He received the degree of M.A. from Baylor University in 1910 and the honorary degree of Ph.M. from the Philadelphia College of Pharmacy and Science in 1915. He founded the *Southern Pharmaceutical Journal* in 1908 and served as its Editor until 1915.

In 1915, Dr. Eberle accepted the Editorship of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, a position which he filled with distinction until his retirement in 1938. Few, if any, have served the profession and the ASSOCIATION with greater devotion.

Dr. Eberle was President of the Texas Pharmaceutical Association for two terms, from 1901–1903, and was Secretary of the Association from 1909–1914. He joined the AMERICAN PHARMACEUTICAL ASSOCIATION in 1896 and became a Life Member in 1921. He was active in many of the Sections of the ASSOCIATION, giving particular attention to the Historical Section. He was elected Second Vice-President of the A. PH. A. in 1902, First Vice-President in 1908 and President in 1910.

In 1932 Dr. Eberle was awarded the Remington Honor Medal for his contributions to the profession of pharmacy. He was a member of the Committee of Revision of the United States Pharmacopœia 1910–1920. He served as a member of the Syllabus Committee from 1911–1934.

Dr. Eberle was a member of the American Chemical Society, the American Association for the Advancement of Science, the American Medical Editors Association, the Franklin Institute, the Texas Historical Society, the Mississippi Valley Historical Society, the Wisconsin Historical Society, the Society for the History of Pharmacy (International) and the Society for the History of Pharmacy (France).

Although Dr. Eberle retired as Editor of the JOURNAL in 1938, he retained his office at the AMERICAN INSTITUTE OF PHARMACY as Historian and Curator of the Museum and continued to carry on such ASSOCIATION duties as his strength would permit, including the Chairmanship of the Fairchild Scholarship Committee. He had attended the meetings of the A. PH. A. continuously for forty years and was present at the Eighty-Ninth Annual Meeting in Detroit last August.

He was an Episcopalian and a 33rd degree Mason.

Dr. Eberle is survived by his widow, Mrs. Lillian Hancock Eberle.

Funeral services were held at Washington, D. C., May 4th. Interment was at Watertown, Wis., on May 5th. Rev. Harry Pallet, of the Episcopal Church of Watertown, officiated and the following served as pallbearers: Dr. W. O. Richtmann, Professor of Pharmacognosy, College of Pharmacy, University of Wisconsin; Dr. Arthur H. Uhl; Director of the College of Pharmacy, University of Wisconsin; Emil Hayden, Manager of the Madison Wholesale Drug Co.; Max Lemberger, President of the American College of Apothecaries; Sylvester H. Dretzka, Secretary of the Wisconsin State Board of Pharmacy; and Jennings Murphy, Secretary of the Wisconsin Pharmaceutical Association.

A section of the May issue of this JOURNAL will be devoted to a tribute to Dr. Eberle.

- **A DYNAMIC PROGRAM TO ENCOURAGE PHYSICIANS TO MAKE GREATER USE OF THE SERVICES OF THE RETAIL PHARMACIST**

Productiv

By CHAR ALL
CHAIRMAN, COMM N PRO

IF WE are to be frank with ourselves, detailing has been generally ineffective in the hands of the practicing pharmacist who seeks to encourage a fuller utilization of his professional services by the doctors of his community.

To be sure, there have been isolated instances of successful, individualized programs, but, by and large, the pattern of most professional relations projects in the past has been about the same. A local, county, state or national pharmaceutical association sponsors a series of blotters and letters directed to physicians telling them about U. S. P. and N. F. preparations. A few articles in state medical journals, an exhibit at the state medical association convention, and perhaps a formulary complete the program. The results in most cases have been disappointing and the projects have slowly died out.

Why?

Largely, I believe, for one or more of the following reasons:

(1) The programs have neglected one all-important factor which is necessary to attract the interest of the physician: *the appeal of something new.* The detail man representing the pharmaceutical manufacturer calls on the physician with a *new* product or a *new* treatment that will improve his therapy, while the pharmacist has tried to stimulate interest in such products as Elixir of Iron, Quinine and Strychnine or Elixir of Phenobarbital.

(2) Most programs have approached the matter of detailing from a mass viewpoint. They are planned to be sufficiently general to appeal to all physicians and, as a result, they appeal to few because they make no attempt to meet the *individual* needs of those to whom they are directed. The pediatrician, the obstetrician, the surgeon, the dermatologist and the general practitioner each has his special needs and each individual has his own ideas of medication. Mass promotional methods are never very effective.

(3) Most programs offer the physician no opportunity to differentiate between pharmacists in his community who are taking part in the program and those who are not interested. If the doctor does prescribe one of the preparations featured, his prescriptions may reach a pharmacy whose owner is not a member of his state association or is not interested in the program and the doctor gets a telephone call asking him if he, the pharmacist, can supply some other article for the official product prescribed. Naturally, the physician loses interest in the program.

(4) The sole appeal of too many programs has been *price.* Certainly by this time physicians must be getting tired of reading tables of comparative costs of similar non-official and official products and of hearing professional solicitations based on a cut-price appeal. In too many instances the physician has suspected that perhaps the motivating influence behind the pharmacist in such a campaign is the fact that he makes a larger profit on four ounces of the official product than he does on four ounces of the proprietary article.

If I am correct in this analysis of most professional relations programs, it would seem that the ideal program should meet the following requirements:

1. It would stress the factor of "something new."
2. It would be designed to appeal to the individual needs of different physicians rather than try to stimulate mass interest.
3. It would permit the physician to differentiate easily between the pharmacist who is interested in the program and the one who is not.
4. Its appeal would be its value to the physician in improving his treatment of disease rather than on price.

Detailing

HARRALL EVANS
COMMON PROFESSIONAL RELATIONS

A study of these requirements would indicate that perhaps our association programs have been misdirected. Have we been trying to build from the top down instead of from the bottom up? Have we been trying to carry our professional relations programs directly to the doctor when we should be reaching him only through individual pharmacists?

I believe this may be the case for I have discussed this subject with a great many practicing pharmacists during the past year and a half and the consensus of their views is this: "Don't send form letters and blotters to physicians in my neighborhood in the hope that you will strike a responsive note and that they will write prescriptions which will come to me. I know the doctors in my area and I'll take care of the actual detailing. What you can give me is new, live material on which to detail. I'll do the rest."

A NEW APPROACH

Perhaps we should give this idea a trial. Here is a way in which I believe it can be done.

The Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION each month will make a study of the new drugs and new therapies reported by physicians in the medical journals of the country, of which there are more than one hundred. The committee will select those new treatments which involve the use of medication requiring the services of pharmacists in their compounding. A considerable proportion of the new therapies are based on the use of prescription specialties but a great many of them hinge upon the use of ointments, solutions, capsules, emulsions or suppositories which must be compounded by the pharmacist.

It is from these same medical journals that pharmaceutical manufacturers obtain clinical reports of new uses of their specialties. They send summaries of these reports in bulletins to their detail men who use the information in their calls on physicians. Our committee will perform the same service to pharmacists on preparations which offer them an opportunity to do productive detailing.

Through the Practical Pharmacy Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION the Committee will present its analyses of the medical reports, giving the pharmacist the information he needs on the composition and method of preparation of the drugs and pharmaceuticals involved, their advantages over other preparations, and such other professional information as he needs to present the new material to his physicians.

Only one or two items will be presented each month for it is better to do a thorough detailing job on one item a month than a sketchy job on half a dozen. Pharmacists are urged to make at least one detailing visit a month on their physicians and to base these calls on the new material.

Every new treatment or pharmaceutical will not interest every physician. Some will be taken from journals on dermatology, others from journals on surgery, others will deal with pediatrics, etc. It will be up to the pharmacist to determine which physicians in his community will be interested in the individual items.

How will this new productive detailing program meet the requirements set up previously in this article?

1. The products detailed will have the appeal of something new for they will be based on the latest published information in medical journals.
2. The program gives the pharmacist an opportunity to study the practices of the physicians in his community and appeal to their individual interests. He will not detail the obstetrician with a new ointment for psoriasis, nor will he waste the dermatologist's time discussing a new nasal spray, yet he will realize the widespread interests of the general practitioner and will detail him accordingly.
3. The information, in most cases, will reach the physician only through the pharmacist who is taking part in the program. In some few instances the

Lee W. Wolfe, pharmacist of Reading Hospital, Reading, Pa., who aided Dr. Thomas Butterworth in developing Solution of Aluminum Citrate for use in place of Burow's Solution.

physician will have read the original article but most of the material will be taken from specialized journals which are more likely to be missed by the busy practitioner. Since the information reaches Physician Jones from Pharmacist Brown as a service of his pharmacy, Dr. Jones knows where his patients can obtain the new preparation and he can so advise them. This factor safeguards the program against defeat at the hands of uninterested pharmacists.

4. The products detailed will represent contributions to the more effective treatment of disease as reported by physicians. They will be drugs of sufficient importance to merit reporting in leading medical journals. Thus their appeal will be on their merit, not on any price consideration.

START THIS MONTH

There is no better time to start than now. On the following pages is a summary of an article on the superiority of Solution of Aluminum Citrate over the well-known Burow's Solution of the National Formulary. The original article appeared in *Archives of Dermatology and Syphilology* for March, 1942, published by the American Medical Association, one of the most important dermatological journals in this country. The work was done by Dr. Thomas Butterworth a dermatologist, and Lee W. Wolfe, a pharmacist, of Reading Hospital, Reading, Pa.

Read the article carefully. Obtain a supply of aluminum citrate and make up the solution lotion, paste and ointment so that you can leave a sample of each with your physicians.

Organize your presentation to bring out the following points:

I. Introduction.
   - A. Gain the physician's attention by emphasizing the fact that "here is something new in medication."
   - B. Cite the journal in which the original article appeared.
   - C. Identify the authors.

II. Explain Disadvantages of Burow's Solution
   - A. Frequently produces irritation.
   - B. Requires 24 hours to prepare.
     - (1) Must be kept in stock solution.
       - (a) Unstable and throws down precipitate of basic aluminum acetate which increases acidity and irritating properties.

III. Explain Superiority of Solution of Aluminum Citrate.
   - A. Constant composition.
   - B. Prepared extemporaneously.
     - (1) No need for stock solutions.
   - C. As effective as Burow's Solution.
   - D. More constant in action.
   - E. Fewer complaints of irritation.

IV. Explain How Prescribed.
   - A. Economy of concentrated solution.
   - B. Directions for dilution.

V. Explain Other Preparations.
   - A. Lotion, Paste, Ointment.

Study your prescription files for the past several months to determine which physicians in your community use Burow's Solution frequently and which prescribe it seldom or not at all. This will give you your cue as to your approach. Those doctors who use Burow's Solution regularly will be interested in trying the new solution. Those who are not using Burow's Solution now may be avoiding it because of its irritating properties and they will be especially interested in the new solution. In any event, know your doctors and their prescription habits so you can talk intelligently.

PROFESSIONAL RELATIONS

To provide the background for the detailing efforts of individual pharmacists, but not to supplant them, the Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION is developing a coördinated program to encourage greater mutual understanding of the problems of physicians and pharmacists. Starting with the Joint Conference between the American Medical Association and the AMERICAN PHARMACEUTICAL ASSOCIATION in Cleveland on April 6th the program will be continued at state medical and pharmaceutical association conventions this summer. The state associations have been asked to exchange speakers this year and most of them have accepted the suggestion. These meetings provide an opportunity to discuss general topics of concern to both professions and reach understandings which are only possible by pharmacists and physicians acting collectively through their associations.

PROFESSIONAL DISPLAYS

Although displays at conventions of medical associations offer an effective means of acquainting the physician with the type of pharmaceutical service he may expect from pharmacists, most of the displays which I have seen fall far short of achieving this objective. A long table with a miscellaneous collection of neatly labeled bottles and jars makes a pretty picture, *but it doesn't tell a story.* The physician looks over the exhibit and shows a general interest in it but there is no punch, no one striking feature, which creates a lasting impression in his mind and stimulates him to do something.

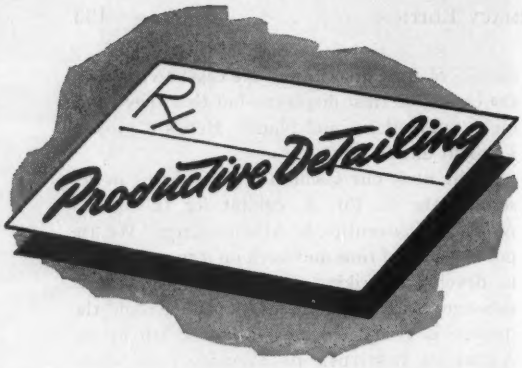
The Committee on Professional Relations believes that the professional relations committees of state associations are eager to improve the quality of their displays—but that they want ideas, suggestions, and plans. Here's a project I should like to try:

Right now, our Committee is assisting in designing the A. PH. A. exhibit for this year's A. M. A. Convention in Atlantic City. We are putting a lot of time and work on it in an attempt to develop a striking display that will put its message over with a real punch. When the display is completed we will set it up in the AMERICAN INSTITUTE OF PHARMACY in Washington, photograph it, make diagrams of it and prepare a full description of how to duplicate it. We will then place this information in the hands of the professional relations committees of every state pharmaceutical association in the country so that they may make similar displays at their state medical conventions.

Thus the Professional Relations Committee recognizes that there is a distinction between (1) those objectives which can be achieved only through collective action and (2) those objectives which can be achieved only through individual action. The committee will not attempt to detail physicians over the heads of pharmacists and it suggests that individual pharmacists not take it upon themselves to stage one-man campaigns to correct the general misunderstandings between the professions of medicine and pharmacy. Pharmacists individually and pharmacists collectively have their own spheres of operation in this program and the best results will be secured if the limitations of these spheres are observed.

Will the new Productive Detailing project, backed by a comprehensive Professional Relations Program, prove to be the answer to encouraging physicians to make a greater use of the professional services of the pharmacist? Only time will tell. In the meantime, will you give it a fair chance in your pharmacy?

Inquiries, comments, criticisms and suggestions will be welcomed by the chairman of the Committee.



BETTER THAN BUROW'S— — SOLUTION

NEW PREPARATION SUGGESTED AS SUBSTITUTE FOR SOLUTION OF ALUMINUM ACETATE, N. F.

A SIX per cent solution of aluminum citrate has all of the therapeutic properties of the five per cent solution of aluminum acetate of the National Formulary, better known as Burow's Solution, and has none of its unfavorable qualities, according to Dr. Thomas Butterworth and Lee W. Wolfe of the Reading Hospital, Reading, Pa., in *Archives of Dermatology and Syphilology* for March, 1942 (45 (3), 514–518). Dr. Butterworth is a dermatologist and Mr. Wolfe is a pharmacist.

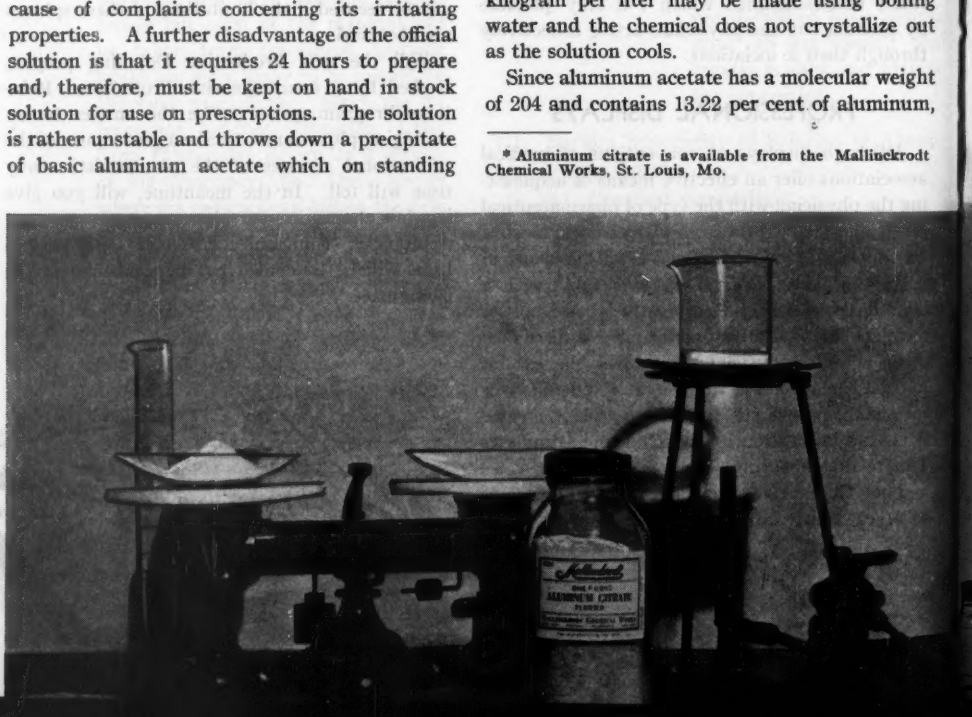
Burow's Solution is widely used by dermatologists as an antiseptic, antiphlogistic and refrigerant wet dressing in acute inflammations of the skin, but recently it has been rather severely criticized as irritating. The official solution is made by the reaction of aluminum sulfate and lead acetate and there is always a possibility of unreacted lead acetate in the finished preparation, a condition which many believe to be the cause of complaints concerning its irritating properties. A further disadvantage of the official solution is that it requires 24 hours to prepare and, therefore, must be kept on hand in stock solution for use on prescriptions. The solution is rather unstable and throws down a precipitate of basic aluminum acetate which on standing increases the acidity and irritating properties of the preparation.

Thus, a substitute of constant composition which exhibits the favorable properties of solution of aluminum acetate, is easily prepared extemporaneously, and is less irritating, is a worthwhile addition to the dermatological armamentarium. Dr. Butterworth and Mr. Wolfe believe they have found such a substitute in aluminum citrate, used at present in deodorant creams and various foot powders. The 6 per cent solution of aluminum citrate has been used for more than a year in the Reading Hospital Clinic and in Dr. Butterworth's private practice with excellent results. It is fully as effective as Burow's Solution, is more constant in its action and, although not tolerated in every case, complaints of irritation are much less frequent.

Aluminum citrate,* $AlC_6H_9O_7$, is commercially available as a glassy crystalline substance which may be readily ground to a fine white powder. It is slowly soluble in cold water but very soluble in boiling water. A solution containing one kilogram per liter may be made using boiling water and the chemical does not crystallize out as the solution cools.

Since aluminum acetate has a molecular weight of 204 and contains 13.22 per cent of aluminum,

* Aluminum citrate is available from the Mallinckrodt Chemical Works, St. Louis, Mo.



ALUMINUM CITRATE

while aluminum citrate has a molecular weight of 216 and contains but 12.48 per cent of aluminum, slightly more of the citrate must be used to secure the equivalent astringent effect of the acetate. Then, too, aluminum citrate contains approximately 10 per cent of water. On the basis of these figures, a 6 per cent solution of aluminum citrate contains approximately the same quantity of aluminum as Solution of Aluminum Acetate, N. F., which is a 5 per cent solution.

CONCENTRATED SOLUTION

Having chosen a 6 per cent solution of aluminum citrate as the approximate equivalent of Burow's Solution, Dr. Butterworth and Mr. Wolfe felt that some economies could be effected by dispensing the solution in a more concentrated form when it is intended for wet dressings and compresses.

Aluminum citrate	36.
Distilled water *q. s.*	100.

They decided on a 36 per cent solution so that 1 teaspoonful, 5 cc., would have the same properties as 2 tablespoonfuls, 30 cc., of Burow's Solution. Dr. Butterworth prescribes 1/2 to 2 ounces of the 36 per cent solution of aluminum citrate with directions to the patient to dilute 1 teaspoonful with 10 to 16 ounces of water. The solution is applied in the same manner as is Burow's solution.

ALUMINUM CITRATE LOTIONS

Aluminum citrate may be incorporated into lotions for dermatological use. One such lotion with good keeping qualities may be made by the following formula:

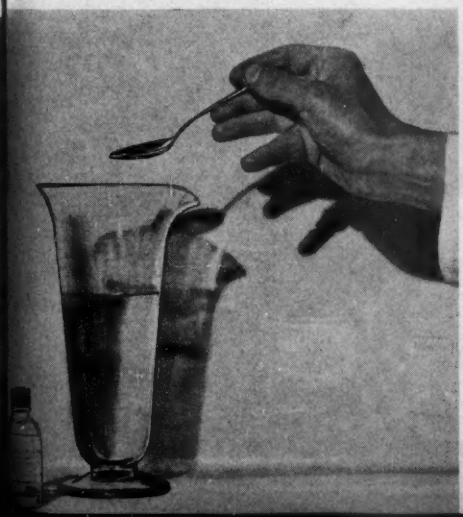
Boric acid	4.0 Gm.
Zinc oxide	30.0 Gm.
Sol. Alum. Cit. (6%)	20.0 cc.
Witch Hazel	60.0 cc.
Water, *q. s.*	240.0 cc.

To this stock lotion may be added more zinc oxide, talc, resorcinol, phenol and glycerin without disturbing its stability. Solution of Coal Tar, N. F., may be incorporated, but must be added just before the lotion is to be used as it gradually precipitates the aluminum salt.

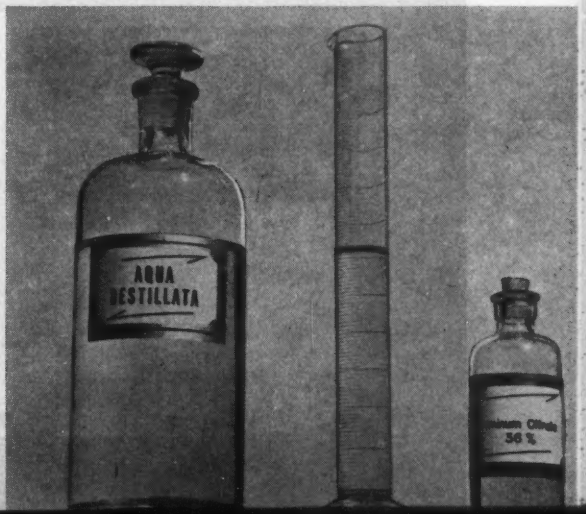
In preparing the lotion, do not use solution of calcium hydroxide as this chemical reacts with the aluminum salt to form a gelatinous precipitate of aluminum hydroxide.

Note: In a personal communication to this JOURNAL, the authors state that they have used bentonite in the above lotion and, although it makes a better preparation from a pharmaceutical viewpoint, some patients object to it because it gives a heavier coating of material on the skin. Pharmacists who wish to use this suspending agent might add 40 per cent of Magma of Bentonite, N. F. VII. The authors also state that in order to conserve zinc oxide they have reduced the amount of this ingredient to one-half the specified quantity and have added an equal amount of calcium carbonate. The preparation retains its clinical qualities satisfactorily with this change.

One teaspoonful of concentrated solution is diluted with 10 to 16 ounces of water by the patient.



The concentrated solution is diluted to make a 6 per cent solution for use in pastes, lotions or creams.



Aluminum citrate may be incorporated into lotions for dermatological use.

ALUMINUM CITRATE PASTE

An aluminum citrate paste, similar to Burow's Paste and used for the same purposes, may be made by the following formula:

Sol. Alum. Cit. (6%).....	10 cc.
Wool fat.....	20 Gm.
Paste of Zinc Oxide, N. F.....	30 Gm.

This basic paste may be modified by the addition of anti-pruritic substances such as phenol, menthol, Solution of Coal Tar, N. F. and other medication.

ALUMINUM CITRATE CREAM

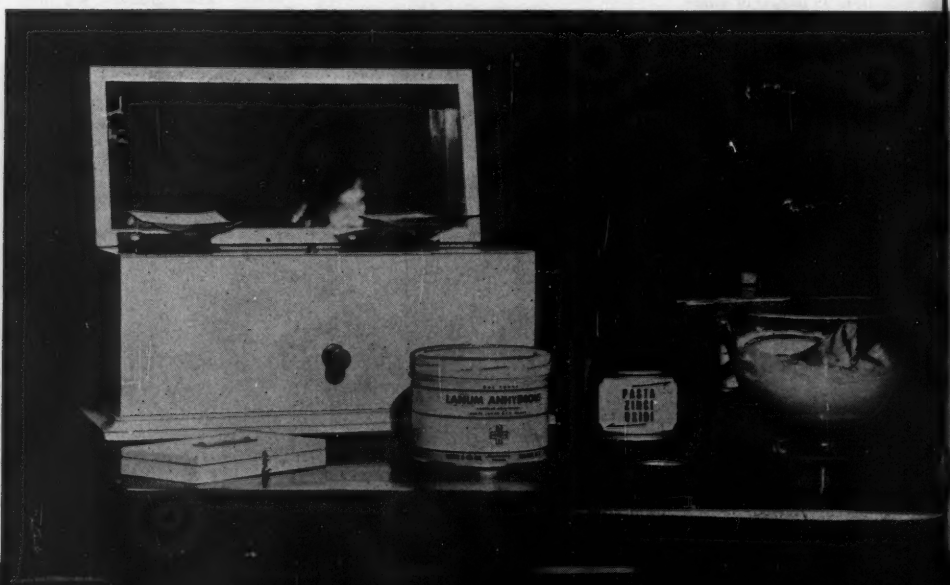
Fine creams of aluminum citrate may be made by incorporating the 6 per cent solution in a base of hydrous wool fat and petrolatum or with an absorbtion base such as the following:

Sol. Alum. Cit. (6%).....	7.5 cc.
Oxycholesterol-petrolatum base,* *q. s.*.....	30.0 Gm.

Up to 50 per cent of the solution of aluminum citrate may be incorporated and phenol, menthol or Solution of Coal Tar, N. F. may be added.

* Merck Absorbtion Base..... 15.0
White Petrolatum, *q. s.*.....100.0

An aluminum citrate paste similar to Burow's Paste may be made.



Druggist's Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

DERMATITIS DUE TO HYDROQUINONE IN BABY OILS

Hydroquinone, used as an antioxidant in "antiseptic baby oils" to prevent rancidity, is a substance with a high index of sensitivity from the dermatological standpoint and the routine use of such oil, in the case of infants, over a long period of time should be under careful control, according to Dr. Joseph H. Lapin, of New York City, in the *American Journal of Diseases of Children*, for January, 1942.

Dr. Lapin recently has had six cases of babies under three months of age with patchy, erythematovesicular dermatitis. In every case the mother had been using "antiseptic baby oil" on the baby's face. Omission of the oil and the application of a bland ointment cleared up the skin condition promptly.

Dr. Lapin patch-tested the six infants for 48 hours and all showed positive reactions. He then patch-tested 30 newborn infants and only one gave a positive reaction. From this, Dr. Lapin believes that there is a definite period during which an infant's sensitivity to hydroquinone increases with each application of the baby oil until, after a few months, the sensitivity is manifested by a dermatitis.

VAGINAL TAMPON USEFUL IN COLOSTOMY MANAGEMENT

The patient who has had a colostomy always faces a trying problem in taking proper care of the orifice. Colostomy bags have been largely discarded and gauze pads used in their place, but even these leave much to be desired, particularly in the care of the fastidious patient.

Dr. M. A. Slocum, Attending Surgeon of St. Margaret Memorial Hospital, Pittsburgh, had a woman patient who objected to the usual pads and suggested trying a vaginal tampon of the type which has come into general use within the past few years. The suggestion proved most efficient. The routine is to irrigate the bowel in the morning, insert the tampon with its outer covering into the stoma of the bowel to a distance just sufficient to leave enough of the outer paper tubing to permit its withdrawal. The tube is withdrawn and any protruding portion of the tampon is further pushed into the opening until only the connecting string is left. A few layers of gauze or toilet paper over the colostomy complete the dressing. Under normal condition, 24 hours may elapse before the dressing needs to be changed.

—*Amer. J. Surg. 55, 1 (Jan. 1942), 183*

VALUE OF AMPHETAMINE IN OBESITY CHALLENGED

Conflicting reports have been made concerning the value of amphetamine (Benzedrine) sulfate in the treatment of obesity. It has been claimed that the drug is superior to thyroid extract because it decreases the appetite, delays the emptying time of the stomach, and increases the basal metabolic rate, but these claims have been questioned.

To shed additional light on the subject, Dr. S. W. Kalb, of Newark, N. J., placed 500 patients who were 10 to 125 per cent overweight on low-caloric, high-protein diets (800 to 1500 calories a day) and for intervals of four weeks he prescribed (*a*) amphetamine, (*b*) thyroid extract, (*c*) a combination of amphetamine and thyroid ex-

tract, and (*d*) placebos. The patients were weighed weekly for 16 weeks and Dr. Kalb found that none of the drugs increased the rate of weight loss over that resulting from the sub-maintenance diet alone.

Jour. Med. Soc. N. J., 39, 2 (Feb. 1942) 74–75

MOOK'S LOTION AND ALIBOUR WATER

Writing in *Tri-State Medical Journal* (14, 4 (Jan. 1942), 2603–2606), Dr. Wallace Marshall, of Appleton, Wis., lists two lotions used in the treatment of acne vulgaris. Pharmacists should make a note of them in order to have the formulas available should a physician prescribe them by name. The two preparations are as follows:

ALIBOUR WATER

Zinc sulfate	5.6
Copper sulfate	1.6
Saturated camphor water	240.0

MOOK'S LOTION

Liquor carbonis detergens	12.0
Zinc oxide	48.0
Corn starch	48.0
Glycerin	72.0
Water, *q. s.*	240.0

STUDIES GIVE HOPE OF SULFONAMIDE DETOXICATION

The sulfonamide drugs, although among the most effective therapeutic agents available, have undesirable toxic side-actions which in many cases limit their use. On the theory that the process of aiding the body in its fight against infection by administering sulfonamide compounds also gives the body toxic chemicals which it must detoxify, Drs. G. J Martin, C. V. Fisher and M. R. Thompson, of the Warner Institute for Therapeutic Research, New York City, are studying the possibilities of reënforcing the body's natural processes of detoxication.

The authors have given mice and other animals therapeutic doses of sulfanilamide, sulfapyridine and sulfathiazole with simultaneous doses of aminoacetic acid, choline, cystine, glucuronic acid, glutamine, ascorbic acid, sulfates, acetates, ornithine, and many other substances.

In the case of sulfanilamide, the acute toxic effects of the drug have been reduced as much as 40 per cent by the simultaneous administration of either calcium glucuronate or a combination of aminoacetic acid, cystine, calcium glucuronate and ascorbic acid. The administration of these substances not only did not decrease the efficacy of the sulfanilamide, but slightly increased its effectiveness against hemolytic streptococcal infections. Absorption of the drug was increased by approximately 10 per cent.

The simultaneous administration of either aminoacetic acid or ascorbic acid decreased the toxicity of sodium sulfapyridine by as much as 50 per cent with no decrease in therapeutic effect or absorption.

Cystine or aminoacetic acid reduced the toxicity of sodium sulfathiazole by as much as 50 per cent without affecting the therapeutic efficacy or absorption of the drug.

This work, thus far conducted on both laboratory animals and many clinical patients, offers tremendous potentialities for clinical application in extending the usefulness of sulfonamide drugs by reducing the incidence of toxic reactions accompanying their use.

—Arch. Int. Med., 69, 4 (Apr. 1942), 662–669

DERMATOLOGISTS DENY ATHLETE'S FOOT IS CONTAGIOUS

Fungous infections of the feet and groin, commonly known as Athlete's Foot, are rarely, if ever, contagious and the harsh prophylactic measures widely used in the home, the swimming pool and the gymnasium are not only illogical and serve no useful purpose, but are potentially harmful to the skin, according to Drs. Marion B. Sulzberger and Rudolf L. Baer, of the Dermatological Service, Montefiore Hospital for Contagious Diseases, New York City, and Dr. Rudolph Hecht, of the Department of Dermatology, University of Illinois College of Medicine, Chicago.

These dermatologists state that they personally have never believed that Athlete's Foot was

contagious and, therefore, they have never given directions to their patients to guard against giving the disease to other members of their households, and they have recorded no case of familial or conjugal transmission of the disease in their respective practices in the past ten years. To check their ideas they sent questionnaires on the subject to a group of outstanding dermatologists and out of 88 replies covering many thousands of observed cases, only four cases of proved transmission of the infection were reported. This question is of immediate importance to the military personnel, as well as the civilian public, and the evidence indicates that the rare occurrence of transmission of Athlete's Foot from one person to another is of little, if any, practical importance.

The authors believe that everyone carries pathogenic fungi in quiescent foci on the feet, beneath the toenails, and in the groin and that acute attacks of Athlete's Foot are caused by a lowering of the individual's resistance to his own germs.

Prophylactic measures which stress personal hygiene of the feet should be recommended but "the often difficult, disagreeable, expensive and potentially skin-damaging prophylactic measures" should be avoided, they state.

—*Arch. Derm. & Syphil., 45, 4 (Apr. 1942), 670*

FERRIC CHLORIDE OINTMENT USEFUL AGAINST POISON IVY

A new ointment which is completely effective against poison ivy dermatitis if it is applied before contact with the plant has been developed by Dr. Edmund L. Keeney, of Baltimore, Md., at the Municipal Poison Ivy Clinic instituted by that city in an effort to decrease compensation disabilities for this dermatitis among city employees. The formula of the ointment is as follows:

Ferris chloride	10
Anhydrous lanolin	60
Vanishing cream	30

The ointment permanently stains clothing, however.

Cotton stockings and gloves soaked in a 10 per cent solution of ferric chloride provide effective protection against poison ivy, states Dr. Keeney.

—*South. Med. J., 35, 4, 408–409*

SULFATHIAZOLE IN PUSTULAR ACNE

Dr. Thomas S. Saunders, of Portland, Oregon, reports that the addition of 0.5 per cent of sulfathiazole to sulfur lotion increases the effectiveness of this preparation in the treatment of pustular acne. The number of pustules is conspicuously reduced after three weeks of treatment, states Dr. Saunders, the sulfathiazole being responsible for clearing them up, while the sulfur exerts its usual keratolytic effect.

—*Arch. Derm. & Syphil., 45, 4 (Apr. 1942), 762*

N.N.R. DROPS MINERAL OIL INHALANTS

Because of the danger of lipid pneumonia from the repeated intranasal use of preparations containing mineral oil, the Council on Pharmacy and Chemistry of the American Medical Association has withdrawn its previous acceptance of such products and has dropped them from New and Non-Official Remedies. In the absence of evidence as to the dangers of nasal preparations with vegetable oil bases, such products are retained.

CONVERSION TABLE ON PRESCRIPTION BLANKS

To assist physicians in converting apothecary measures of weight and volume into their metric equivalents, Dr. A. A. Anderson, of Freeport, L. I., N. Y., in the *Journal of the American Medical Association* for March 21, 1942 (page 999), suggests that the following table be printed in the lower left-hand corner of prescription blanks:

Grains	Gm. or cc.
1/150	0.0004
1/120	0.0005
1/100	0.0006
1/6	0.011
1/4	0.016
1	0.065
15	1.0
60 (1 drachm)	4.0
1 oz.	32.0

SULFATHIAZOLE IN ATHLETE'S FOOT

Because Athlete's Foot is a real problem of military medicine among troops in the warmer climates, often hospitalizing men for considerable periods of time, Lt. C. J. Rademacher, of the Medical Corps, 899th Tank Destroyer Battalion Ft. Lewis, Wash., has experimented with new lines of treatment and has had interesting results with sulfathiazole.

Starting with 75 cases, he treated half with pure sodium sulfathiazole crystals dusted on the lesions, and the other half with 50 per cent of sulfathiazole in talc dusted on the lesions once a day. The results were spectacular. Practically all of the cases were improved within 48 hours, both groups showing about the same reaction with the exception of some cases of irritation noted among those treated with the pure crystals. After 72 hours, one half was treated with 50 per cent of sulfathiazole in talc and the other half with a 25 per cent mixture. The results were equally satisfactory and Lt. Rademacher believes a 10 per cent mixture would be equally effective.

Of the 75 cases, 22 were completely cured, 9 were incompletely treated for various reasons and 44 were not completely cured and, therefore were classified as highly resistant.

The 44 resistant cases were treated with an ointment consisting of 10 per cent of sulfathiazole in 2 per cent salicylic acid ointment. Of this group 33 were cured, 5 discontinued treatment and 6 still were resistant but were symptomless except for slight itching.

Lt. Rademacher suggests the addition of 10 per cent of sulfathiazole to Army Foot Powder for the treatment of Athlete's Foot in the military forces, and the use of the sulfathiazole-salicylic acid ointment in resistant cases.

—*Military Surgeon, 90, 4 (Apr. 1942), 431–434*

SODIUM PERBORATE OINTMENTS FOR POISON IVY PREVENTION

Dr. Louis Schwartz, of the United States Public Health Service, has revised the formula he recommended some time ago for ointment of sodium perborate in the prevention of poison ivy dermatitis. The original formula was made with a vanishing cream base which permitted the perborate's oxygen to escape and the ointment to become ineffective. Dr. Schwartz now suggests the use of either of the following formulas:

FORMULA I

Castor oil	21.5
Olive oil	21.5
Lanolin, anhydrous	21.5
Diglycol stearate	12.9
Paraffin, refined	8.6
Boric acid	2.0
Sodium perborate	10.0
Duponol WA pure (DuPont)	2.0

FORMULA II

Cetyl alcohol	35.1
Stearyl alcohol	5.3
Ceresin	3.5
Castor oil	20.8
Mineral oil	21.9
Duponol WA pure (DuPont)	1.7
Sodium perborate	10.0
Boric acid	1.7

The ointment should be thickly applied to exposed parts, such as the hands and face. Clothes and garden tools which have been used in cutting or removing poison ivy can be decontaminated by immersing them for fifteen to twenty minutes in a 1 per cent solution of calcium hypochlorite.

Pub. Health Rep. 57: 16 (Apr. 17, 1942) 578–585

DROPPER BOTTLES FOR NOSE DROPS CONDEMNED

Dropper bottles in which the dropper extends into the solution are condemned by Drs. J. L. Gompertz and P. Michael, of Oakland, Calif., as containers for nose drops used in the treatment of colds.

The physicians made cultures of unused bottles of solutions for intranasal use and found them sterile. Cultures of solutions which had been used by patients all yielded bacterial growths. Apparently the repeated passage of the dropper from

nostril to solution had established bacterial contamination.

The authors point out that it is a common practice in most households for different members of the family to use the same bottle of nose drops and in so doing they run the risk of transmitting infections from one to another. Even the person who uses nose drops which he used for a previous cold runs the risk of complicating his infection for his former cold may have been caused by different bacteria.

It is recommended that patients follow one of the following courses:

(1) Purchase small dropper bottles of nose drops and throw them away, bottle and all, at the end of the infection.

(2) Purchase nose drops in a plain screw cap bottle. Use the drops by pouring out the amount needed for the treatment into a teaspoon. Replace the cap on the bottle and fill a dropper from the teaspoon. Never put back any solution into the bottle and never put the dropper or anything else into the bottle.

This report suggests the advisability of dispensing nasal drops in plain screw cap bottles with an accompanying dropper instead of using dropper bottles. The pharmacist should also explain how to use the nose drops to prevent contamination of the solution.

—J. A. M., 118, 15 (Apr. 11, 1942), 1287

EMULSION OF SULFATHIAZOLE

Drs. D. Ackman and G. Wilson, of Montreal, have developed a 5 per cent emulsion of sulfathiazole for use as a wet dressing in the treatment of wounds, abscesses, burns, ulcers, carbuncles and in gynecological surgery. The formula of the emulsion is as follows:

Sulfathiazole (finely powdered)	5
Triethanolamine	2
Distilled water	24
White beeswax	5
Liquid petrolatum	64

Melt the beeswax in the liquid petrolatum on a water bath. Mix the triethanolamine with the water and heat to the same temperature as the petrolatum-wax mixture. Mix the sulfathiazole with the triethanolamine solution and add the petrolatum-wax mixture, stir vigorously until a creamy emulsion is obtained.

Wounds and ulcers are packed with gauze which has been soaked in the emulsion. The preparation keeps the walls of the cavity oiled, preventing the adherence or clothing of lymph. Loose packing over the emulsion-soaked gauze permits constant drainage and the packing need not be removed for several days. It is readily removed with little discomfort to the patient.

Dressings soaked in the emulsion are used in the treatment of burns of the hands, feet, face and genitalia where tannic acid preparations which form echars are contraindicated. The Canadian physicians have also used the emulsion for various surface dressings and then find that with its use wounds remain clean and heal rapidly.

Determinations of blood concentrations of patients have shown that little of the sulfathiazole is absorbed, but three characteristic skin rashes have been noted.

The emulsion-soaked packs are ideal for vaginal work, state the physicians, who have used them preoperatively to prepare a clean field, and as an adjunct in gynecological surgery to reduce the danger of infection. The packs have also been used in the vagina after incomplete abortions. The authors suggest the advisability of using emulsion-soaked packs in the rectum following hemorrhoid operations.

—Can. Med. Assoc. J., 46 (Mar. 1942), 209–214

SEVENTH EDITION OF NATIONAL FORMULARY PUBLISHED

ISSUANCE OF NEW EDITION MARKS THE FIRST STEP IN "CONTINUOUS REVISION" PROGRAM TO KEEP THIS COMPENDIUM UP-TO-DATE WITH ADVANCES IN FIELD

COMPLETELY revised and considerably enlarged, the Seventh Edition of the National Formulary, published by the AMERICAN PHARMACEUTICAL ASSOCIATION, went on sale May 22nd at six dollars a copy. The Mack Printing Company of Easton, Pa., are exclusive agents for this edition.

Included among the new monographs in N. F. VII are Ammoniacal Solution of Silver Nitrate and Zinc-Eugenol Cement, two important dental preparations; Cherry Juice and Raspberry Juice to provide a convenient method of preparing the official Syrups and making it possible for pharmacists to prepare them at any time of the year instead of merely during the fresh fruit season as was the case formerly when the Syrups were prepared from the fruit. Preparations of the disodium salt of 2,7-dibrom-4-hydroxymercurifluorescein, introduced under the proprietary name "Mercurochrome," are admitted to the new N. F. under the title "Merbromin."

Neocalamine, a new form of Calamine which more nearly approximates flesh color, is included and formulas are provided for a lotion, phenolated lotion and ointment of this drug. These new preparations are much more agreeable to use than those made with Calamine and in time will probably completely replace them.

Pectin and Pectin Pastes are found in the new N. F. to provide standards for these preparations used in the treatment of indolent ulcers, bed sores and similar infections.

Magma of Bentonite, containing 5 per cent of this suspending agent, is included to give the pharmacists a convenient preparation for extemporaneous prescription use.

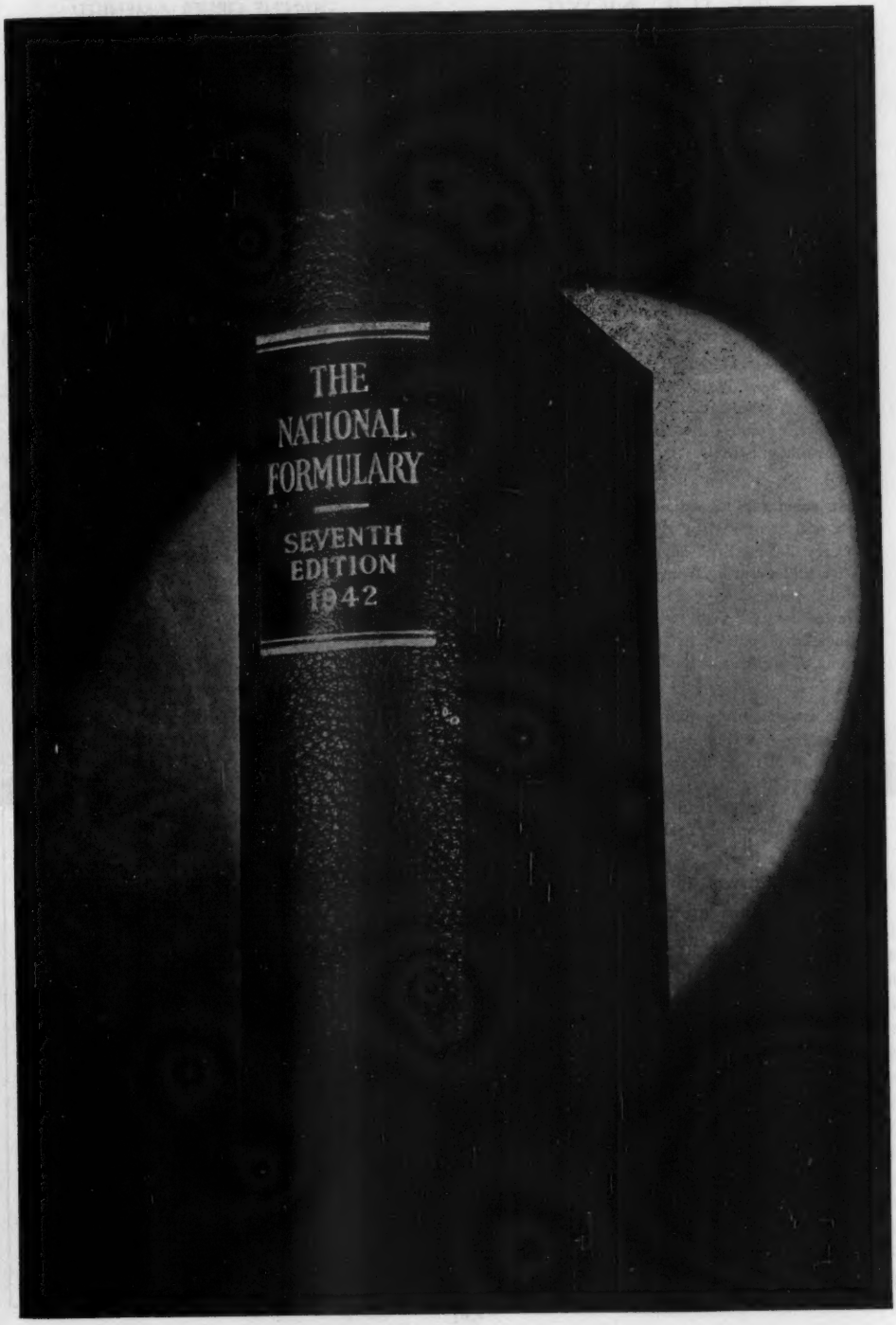
An important feature of the new edition is a greatly augmented section devoted to materials and preparations for use in the clinical laboratory. Pharmacists will find this section a comprehensive guide to the reagents ordinarily used by the clinical laboratory and by the physician who does laboratory examinations in his office.

Seventy-one articles, official in U. S. P. XI but not admitted to U. S. P. XII, have been added to the N. F. in order to provide standards of purity, quality and strength necessary to their use.

Publication of the Seventh Edition of the National Formulary marks the first step in the continuous revision program which has been adopted by the AMERICAN PHARMACEUTICAL ASSOCIATION in order to keep this compendium up-to-date with advances in pharmacy and medicine.

In the laboratories of the ASSOCIATION in the AMERICAN INSTITUTE OF PHARMACY where Dr. Justin L. Powers, Chairman of the N. F. Committee has his office and in the laboratories of colleges of pharmacy and pharmaceutical manufacturers represented on the Committee, the issuance of the new book is merely incidental to the prosecution of scores of research projects which are under way to develop more effective, more pleasant and more attractive forms of medication which pharmacists can provide physicians for use in the prevention and treatment of disease. Other projects relate to the development of replacements made necessary by the present emergency. As new formulas are developed, they will be announced by interim revisions and, if warranted, by supplements. So rapid are the developments in pharmacy, medicine and allied fields that no book of standards can remain static for ten years, or even five years, and retain its usefulness to practitioners in the field.

Pharmacists are urged to obtain their copies of the new edition and to keep their prescription departments in step with the National Formulary program in order that they may promptly make available to the physicians they serve the best in pharmaceutical service that the profession has to offer.


THE
NATIONAL
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SEVENTH
EDITION
1942

IN THE NEWS

Dr. Robert P. Fischelis, Secretary of the New Jersey Board of Pharmacy, received the honorary degree of Sc.D. from the Rutgers University College of Pharmacy at its commencement exercises on May 6th.

Francis E. Bibbins, Chief Pharmacist of Eli Lilly and Company, Indianapolis, Ind., received the honorary degree of Sc.D. from the School of Pharmacy, Purdue University, on May 3rd, in recognition of his contributions to the art and science of pharmacy through original investigations.

Dr. Otto Loewi, Nobel Laureate in Medicine in 1926, will be a Walker-Ames visiting Professor of Pharmacology and Physicology for the spring quarter of this year at the University of Washington College of Pharmacy, Seattle.

Six scholarships, valued at one hundred dollars each, will be offered by the College of Pharmacy of the City of New York beginning with the 1942–1943 session under a grant from the Trustees of the Estate of the late Henry Pfeiffer. The scholarships, awarded for one year, will be given on a basis of financial need, scholarly ability and personal qualifications of applicants for the practice of pharmacy.

The American Association for the Advancement of Science has cancelled its June meeting at Ann Arbor because of changes in the academic sessions at the University of Michigan. The next meeting of the Association will be held in New York City during the week of December 28th.

The Committee of Revision of the United States Pharmacopœia has announced that in U. S. P. XII Ammoniated Mercury Ointment will be 5 per cent in strength instead of 10 per cent, as at present, and Mild Mercurial Ointment will be 10 per cent in strength instead of 30 per cent. Because of the shortage of mercury stocks due to the present emergency, the U. S. P. has recognized these changes by Interim Revision, effective immediately.

Senator Josh Lee, of Oklahoma, has introduced a Bill in Congress which authorizes and directs the Secretary of War "to take such action as may be necessary, and as may be possible in view of the number of registered pharmacists in service or whose services are available to the Army, to assure that a registered pharmacist is placed in charge of each Army dispensary or similar establishment from which drugs are dispensed."

QUININE ORDER AMENDED

Conservation Order No. M-131, restricting the purchase, sale and use of quinine and its sales, has been amended as of April 30th, as follows:

(1) To restrict the purchase, sale and use of totaquine to anti-malarial purposes (stocks of less than 50 ounces on hand April 30th are exempted).

(2) To permit the use of quinine as an ingredient of quinine hydrochloride and urethane.

(3) To prohibit the purchase, sale and use of cinchina bark except for primary use for the extraction of quinine or totaquine.

(4) To prohibit the processing or combining of cinchona bark with other materials except for primary use for the extraction of quinine or totaquine. This provision does not affect the use of preparations of cinchona bark manufactured before April 4th but it bans the manufacture of such preparations as Compound Tincture of Cinchona after that date.

(5) To require purchase certificates for totaquine.

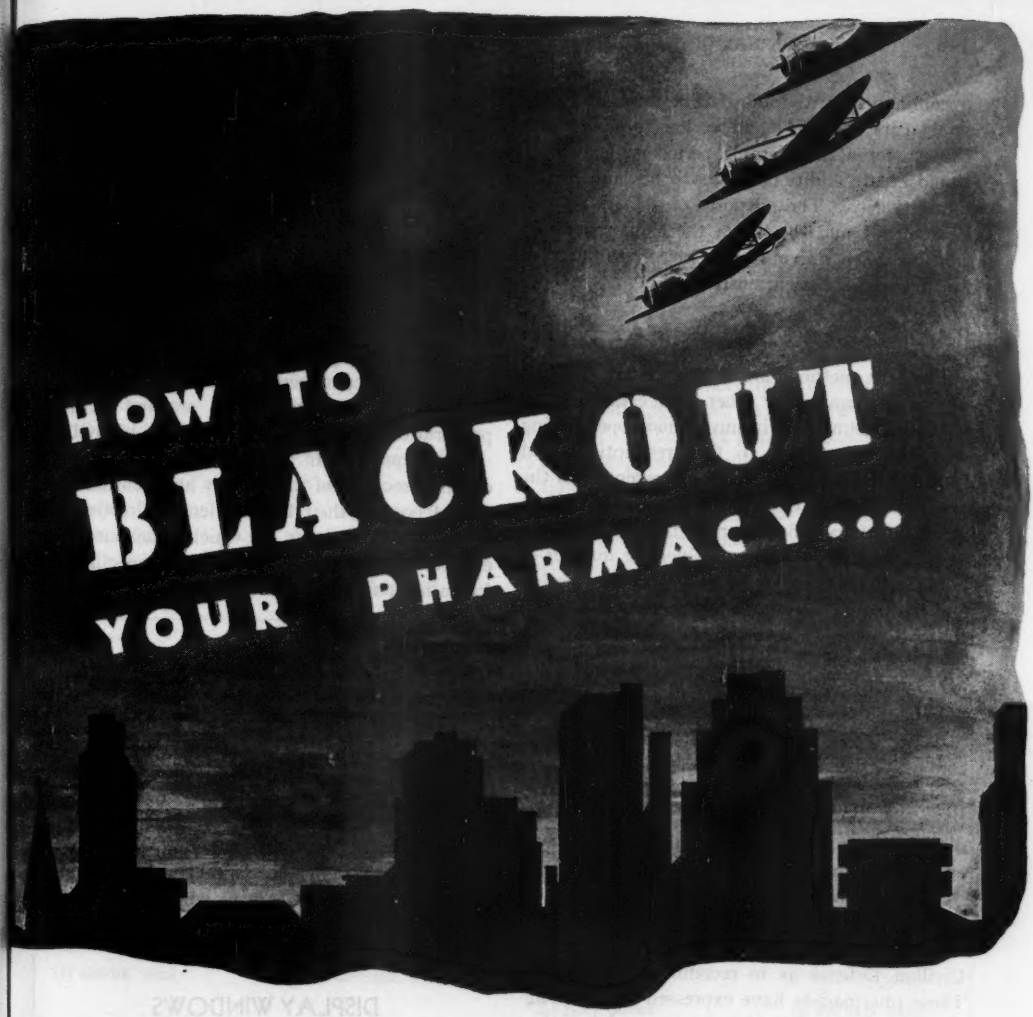
(6) To require purchase certificates for cinchona bark.

(7) To require that purchase certificates for quinine, totaquine and cinchona bark specify, on the reverse side of the certificate, the quantity involved in the transaction.

(8) To prohibit the processing or combining of quinine with other materials except for use as an anti-malarial agent, an ingredient of quinine and urea hydrochloride for hypodermic use, or as an ingredient of quinine hydrochloride and urethane.

(9) To prohibit the processing or combining of totaquine with other materials except for use as an anti-malarial agent.

Although the order exempts stocks of less than 50 ounces of quinine and totaquine which pharmacists had on hand on the respective effective dates, the evident intent of the order is to conserve the supply of these drugs to the fullest extent possible and pharmacists will be performing a patriotic service if they will go beyond the actual wording of the regulations and restrict the use of their present supplies to anti-malarial purposes. Pharmacists who have on hand unopened packages of quinine and its salts or quinine tablets which they do not require, would render a real service by returning them to their sources of supply and thus releasing such for use where it is needed most.



FOLLOW THESE SUGGESTIONS IN EQUIPPING YOUR PHARMACY TO RENDER PHARMACEUTICAL SERVICE DURING EMERGENCIES

TO DEPRIVE enemy air forces of the means of locating targets or checking their positions, blackouts have been adopted by the United States as a defense measure in which every citizen must do his part. Blackouts are not voluntary; they are compulsory. Laws have been enacted in most communities to permit the levying of fines and the imposition of prison sentences on those who refuse to conform to regulations and, in so doing, endanger not only themselves, but the entire community.

All-night, every-night blackouts throughout the entire United States probably will never be required but coastal areas have already been asked to effect partial blackouts to the extent that lights cannot be seen from the ocean. Other communities are having test blackouts and the time may not be far off when areas adjacent to important defense factories may be required to blackout every night. Every community should be prepared to blackout on a few minutes' notice.

On first thought it would seem to be simple enough to pull the switches in the power houses which supply the community with electric power and thus obtain a one hundred per cent blackout in a fraction of a second. However, to plunge

a community into total darkness, stop trains, street cars, elevators and various types of machinery for a considerable period each evening would create additional risks to life and health unnecessarily. The purposes of a blackout can be achieved and the life of the community can continue with minor restrictions if sound rules are followed conscientiously.

PHARMACIES SHOULD STAY OPEN

Blackout methods are more important to the pharmacy than to any other retail establishment in the community for it must remain open during part of the evening to fill prescriptions and furnish other supplies which are essential to the prevention and treatment of disease. Most physicians have office hours in the early evening and, in addition, make a considerable number of house calls. Their patients require medication and the public has a right to expect and demand that pharmaceutical service be available. In a recent blackout in the City of Washington a considerable number of pharmacies, particularly the chain stores, closed up at 7:30 and the protests from the public were immediately forthcoming. One particularly aroused citizen wrote a strong letter to the newspapers excoriating those pharmacies which "sullenly closed their doors with an attitude of 'the public and the war effort be damned.' "

There has been some hesitancy on the part of pharmacists to proceed with blackout procedures until they had suggestions from the U. S. Office of Civilian Defense as to recommended methods. These pharmacists have expressed their willingness to bear the cost of blackout materials if they had some assurance that the methods they used to obscure their lights were satisfactory. It is understandable that a pharmacist should wish to avoid wasting money on the installation of blinds or drapes which would not meet the requirements of OCD and would have to be replaced at considerable expense. With that in mind, the AMERICAN PHARMACEUTICAL ASSOCIATION has conferred with the U. S. Office of Civilian Defense, studied the recommendations which have been developed by the War Department with the assistance of the Chief of Engineers of the U. S. Army and the National Technological Civil Protection Committee, and prepared the following recommendations for pharmacists.

The suggested methods have been recommended by the U. S. Office of Civilian Defense. The ASSOCIATION wishes to acknowledge the assistance of Major General L. D. Gasser, U. S. Army War Department Member of the Board for Civilian Protection, who assisted in the preparation of this material on behalf of OCD.

The requirements for blackouts will vary in different sections of the country and pharmacists should consult their local Defense Directors to determine the extent to which blackouts are expected to be ordered and obtain specific information on such local regulations as are to be enforced.

OBJECTIVE OF BLACKOUT

The objective of blacking out a pharmacy, which of necessity must operate under fairly high levels of illumination, is to permit it to remain open for service and yet allow no light to be seen from the exterior. Although this, of course, requires adequate covering of windows and transoms, the greatest problem is in dealing with the doorway in a way which will permit customers to enter and leave but will not allow any light to be seen from the street.

DISPLAY WINDOWS

The U. S. Office of Civilian Defense is at present working on specifications for low-intensity lighting equipment which will be permitted for exterior use and in display windows. The equipment will include the use of blackout lamps which will be manufactured by leading lamp manufacturers, or special fixtures which achieve the same lighting characteristics. Specifications for such

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AMERICAN PHARMACEUTICAL ASSOCIATION
Reviewed and passed by the
U. S. OFFICE OF CIVILIAN DEFENSE
Washington, D. C.

equipment and details of their availability will be published in this JOURNAL when issued by OCD.

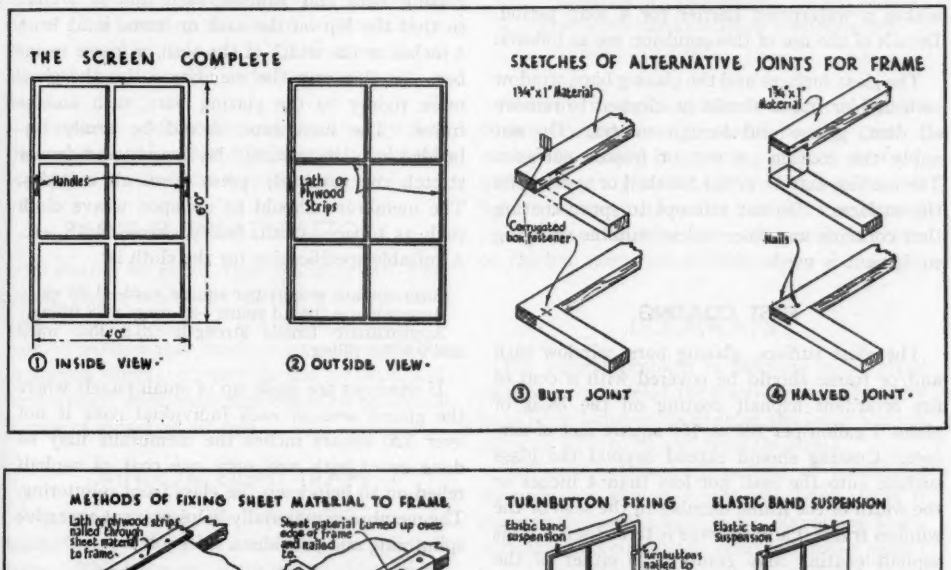
Until such lighting equipment is available for use, all exterior and display window lights must be extinguished during blackouts. If windows are illuminated after the pharmacy is closed in the evening, an outside switch for their immediate extinguishment must be available to police and air raid wardens.

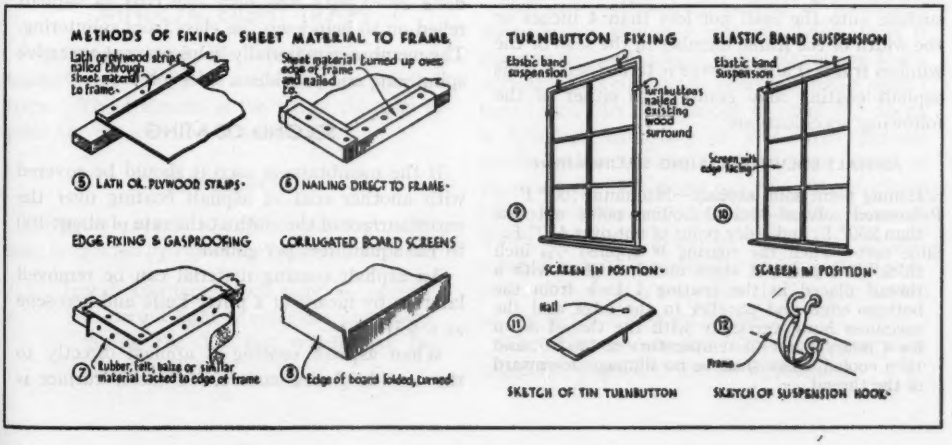
No light from the interior of the pharmacy must be visible through the windows. If the display windows of the pharmacy have solid panel backs which allow no light from the store proper to be seen, no additional safeguards are necessary except to inspect the panels carefully and plug up any cracks or small holes with a substance such as plastic wood.

If the window backs are not solid wood, but have glass panels, these must be obscured with close fitting panels made of suitable blackout materials. Such material should be:

1. Opaque, to the extent of not transmitting more than 0.001 per cent of light incident to the surface.
2. Flameproof.
3. Preferably water-repellent.
4. Strong enough to protect against glass splinters.

Plywood, Celotex wallboard, or Masonite wallboard, $^3/_8$ inch, meet these requirements best. Heavy building paper or Sisalkraft paper are next best. If building paper or Sisalkraft paper is used the panels should be securely fastened to a rigid wooden frame to make them durable. Panels should preferably be designed to give way bodily before blast, *i. e.*, hinged or removable. A strip of felt, flannel or other thick material should be tacked or glued along the




METHODS OF FIXING SHEET MATERIAL TO FRAME
Lath or plywood strips nailed through sheet material to frame.
Sheet material turned up over edge of frame and nailed to.
⑤ LATH OR PLYWOOD STRIPS.
⑥ NAILING DIRECT TO FRAME.
EDGE FIXING & GASPROOFING
CORRUGATED BOARD SCREENS
⑦ Rubber, felt, baize or similar material tacked to edge of frame
⑧ Edge of board folded, turned
TURNBUTTON FIXING
ELASTIC BAND SUSPENSION
Elastic band suspension
Turnbuttons nailed to existing wood surround
Elastic band Suspension
Screen with edge facing
⑨
⑩
SCREEN IN POSITION.
SCREEN IN POSITION.
Nail
Frame
⑪
⑫
SKETCH OF TIN TURNBUTTON
SKETCH OF SUSPENSION HOOK.

frame of the window or frame to make a close fit.

Such panels may be used on other windows which are not needed for ventilation.

BITUMINOUS EMULSION

Another very successful treatment for windows where permanent blackout is permissible and when the use of bituminous materials is not objectionable, is to swab a bituminous emulsion on the outside surface of the glass, which must be perfectly clean, and then press muslin, scrim, cheesecloth or even Sisalkraft paper into the sticky emulsion, making certain that the material overlaps the supporting frame, including mullions and muntins, at least four inches, or the width of the framework. Another coat of the bituminous emulsion is swabbed over the material. This treatment gives protection even though the glass is broken for it holds the splinters in place and makes a waterproof barrier for a long period. Details of the use of this emulsion are as follows:

The glass surfaces and the glazing bars, window sash and/or frame should be cleaned to remove all dust, grease and foreign matter. Do not apply the coating on wet or frosted surfaces. The coating may be either brushed or sprayed on the surfaces. Do not attempt to spray coating that contains any fiber unless suitable spraying equipment is used.

FIRST COATING

The glass surface, glazing bars, window sash and/or frame should be covered with a coat of fire retardant asphalt coating on the basis of about 1 gallon per 100 to 150 square feet of surface. Coating should extend beyond the glass surface onto the sash not less than 4 inches or the width of the frame member in the sash or the window frame if a membrane is to be used. This asphalt coating may conform to either of the following specifications:

ASPHALT SOLVENT COATING SPECIFICATION

Softening point solid asphalt—Minimum 160° F.
Recovered solvent—Initial boiling point not less than 250° F. and a dry point of not over 450° F.
Slide test—When the coating is applied 1/16 inch thick on a panel of sheet metal or glass with a thread placed in the coating 1 inch from the bottom edge and parallel to the edge and the specimen hung vertically with the thread down for 4 hours at an air temperature of 140° F. and then cooled, there shall be no slippage downward of the thread.
Minimum asphalt content—50%.
Maximum fiber or filler content—Not over 19%.
Viscosity reducing agents and resin to prevent jellation—Not over 5%.
Solvents—Balance.
CAUTION: Keep open flames away from this material when applying and until dry.

ASPHALT COLLOIDAL CLAY EMULSION COATING SPECIFICATION

Softening point not less than 105° F.
Flash point—Minimum 500° F.
Asphalt content—Minimum 47%.
Water content—Minimum 48%.
Mineral Colloid—5%.
Asphalt colloidal clay emulsions, after drying, shall produce a film or coating that is not soluble in water.

MEMBRANE

While the first coat of asphalt coating is still tacky lay into it the membrane. This membrane is to be laid in one piece over the glazed surface, glazing bars and window sash and/or frame, so that the lap on the sash or frame is at least 4 inches or the width of the sash or frame member. In this way the membrane ties the glass more rigidly to the glazing bars, sash and/or frame. The membrane should be firmly imbedded into the coating; lay loosely and do not stretch the material; press down all wrinkles. The membrane should be an open weave cloth such as tobacco cloth, heavy cheese cloth, etc. A suitable specification for the cloth is:

Approximate weight per square yard—1.23 oz.
Approximate thread count—32 warp x 28 filling.
Approximate tensile strength—18.8 lbs. warp and 9.8 lbs. filling.

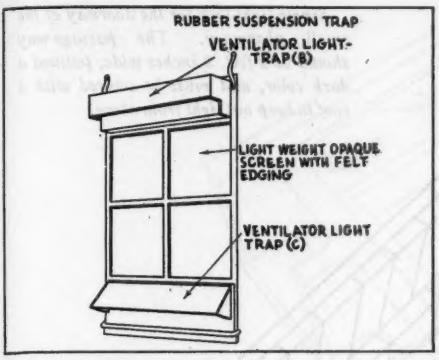
If windows are made up of small panels where the glazed area of each individual pane is not over 120 square inches the membrane may be done away with and only one coat of asphalt relied on to help keep the glass from splintering. The membrane materially helps prevent excessive splintering and provides a safer job.

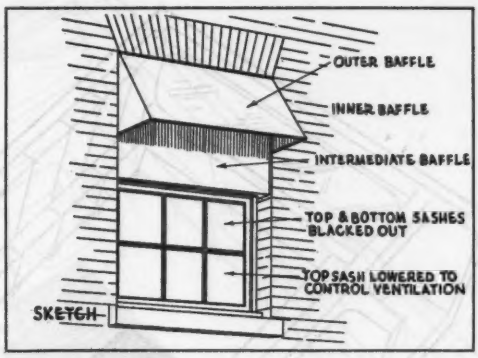
SECOND COATING

If the membrane is used it should be covered with another coat of asphalt coating over the entire surface of the cloth at the rate of about 100 to 125 square feet per gallon.

An asphalt coating material can be removed later on by means of a putty knife and kerosene as a solvent.

When asphalt coating is applied directly to the outside glazed surface, the inside surface is





black. If it is desired to brighten up the interior of the building to reflect more artificial lighting within, slurry of lime, whitewash or casein paint may first be applied to the outside glazed surface and allowed to dry before applying the first coat of asphalt. Such practice permits washing the inside glazed surface to obtain better light reflecting qualities; also, it is a little easier to remove the coating when it becomes necessary to do so.

Whitewash and the like can also be applied to the inside glazed surface if it is not felt necessary to apply it on the outer surface of the glass.

PAINT IS UNSATISFACTORY

It should be noted that blacking out glass panels and windows by merely painting them with opaque paint is not recommended. A painted window may crack as a result of uneven expansion during changes in the weather and, furthermore, such treatment offers no protection in case of an actual air raid.

WINDOW LIGHT TRAPS

Windows needed for ventilation may be blacked out effectively with the use of light traps. The diagrams at the top of this page explain the construction of such traps.

SKYLIGHTS

Skylights present a difficult problem. They may be treated by one of the following methods:

1. Install shutters which may be opened to permit light to enter the pharmacy during the day but which may be closed quickly.
2. Remove all glass and replace with wallboard or plywood panels.
3. Cover the inside of the skylight with $^1/_2$-inch woven wire mesh or hardware cloth covered with opaque textile material or black paint.
4. The bituminous emulsion treatment previously described.

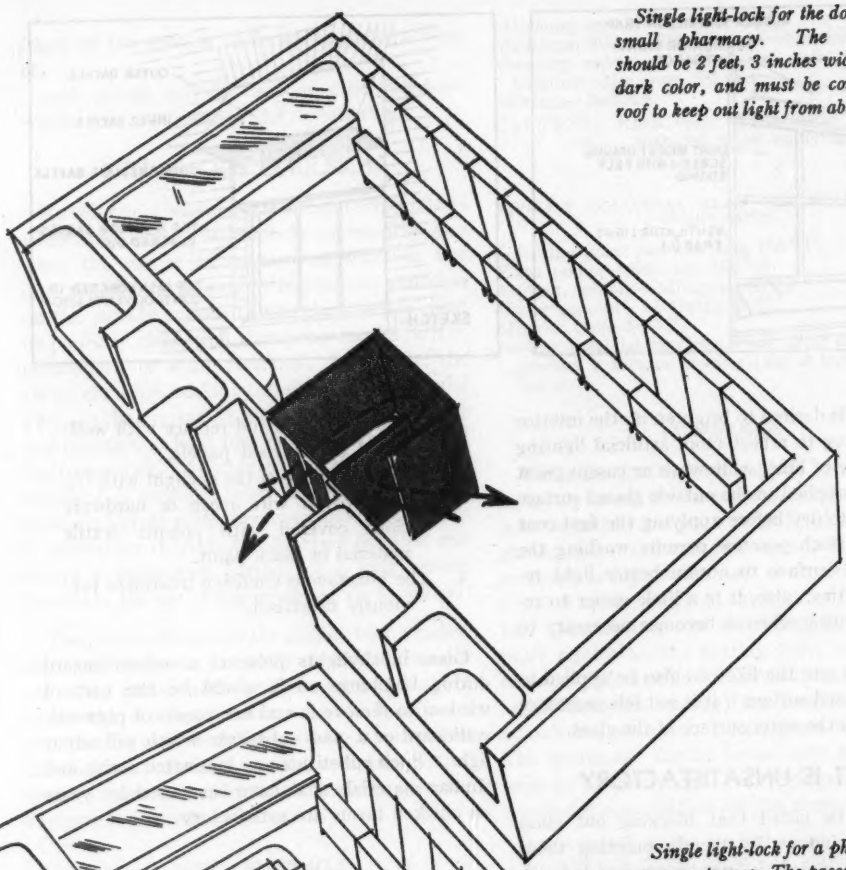
Glass in skylights presents a serious hazard during bombings so it would be the part of wisdom to remove it and use panels of plywood, wallboard or a glass substitute which will admit light. Such substitutes as laminated scrim and similar materials that have been used for years on chicken farms are satisfactory.

DOORWAYS

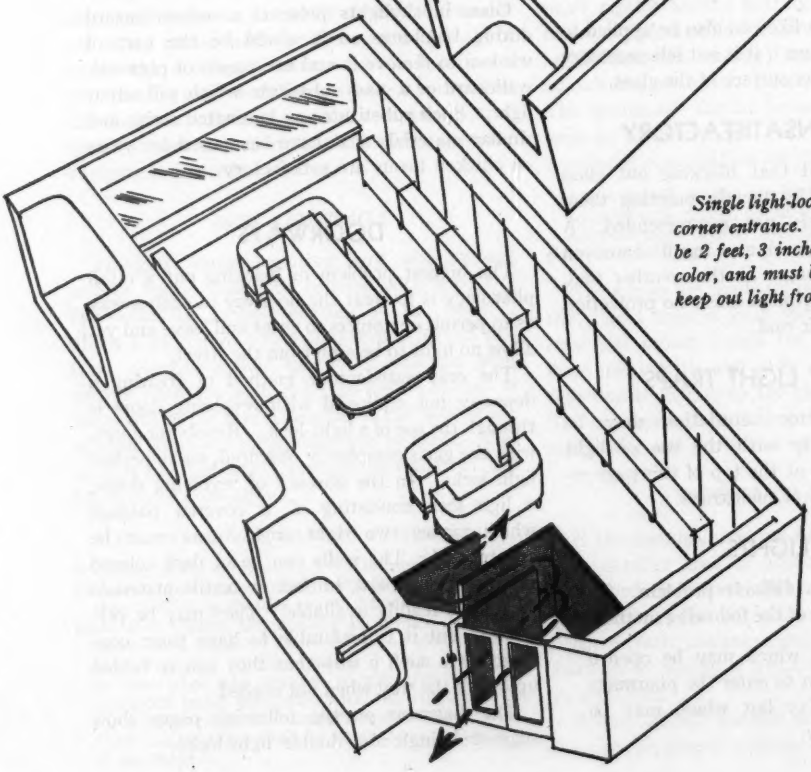
The biggest problem in blacking out a retail pharmacy is to treat the doorway in such a way as to permit customers to enter and leave and yet allow no light to be seen from the street.

The only satisfactory method of treating a doorway not equipped with revolving doors is through the use of a light-lock. Revolving doors, with the glass completely obscured, make perfect light-locks. In the absence of revolving doors, a light-lock consisting of a covered passage which makes two right angle turns must be constructed. The walls can be of dark-colored plywood, wallboard, lumber or textile materials which are readily available. They may be permanent but it is preferable to have them constructed in such a way that they can be folded up out of the way when not needed.

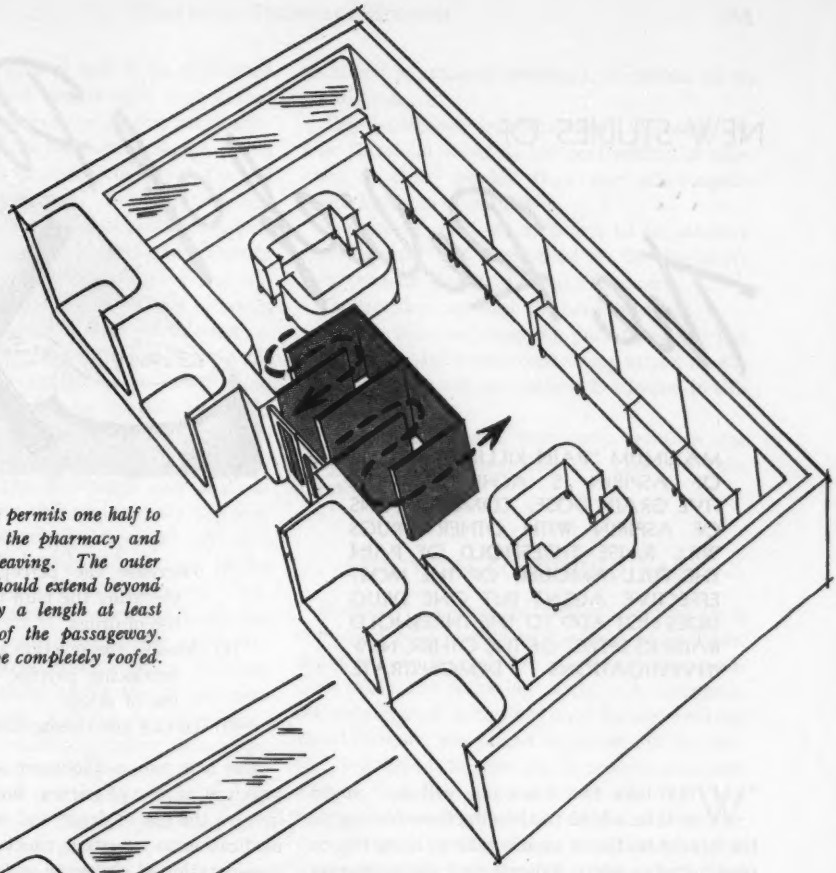
The diagrams on the following pages show suggested single and double light-locks.



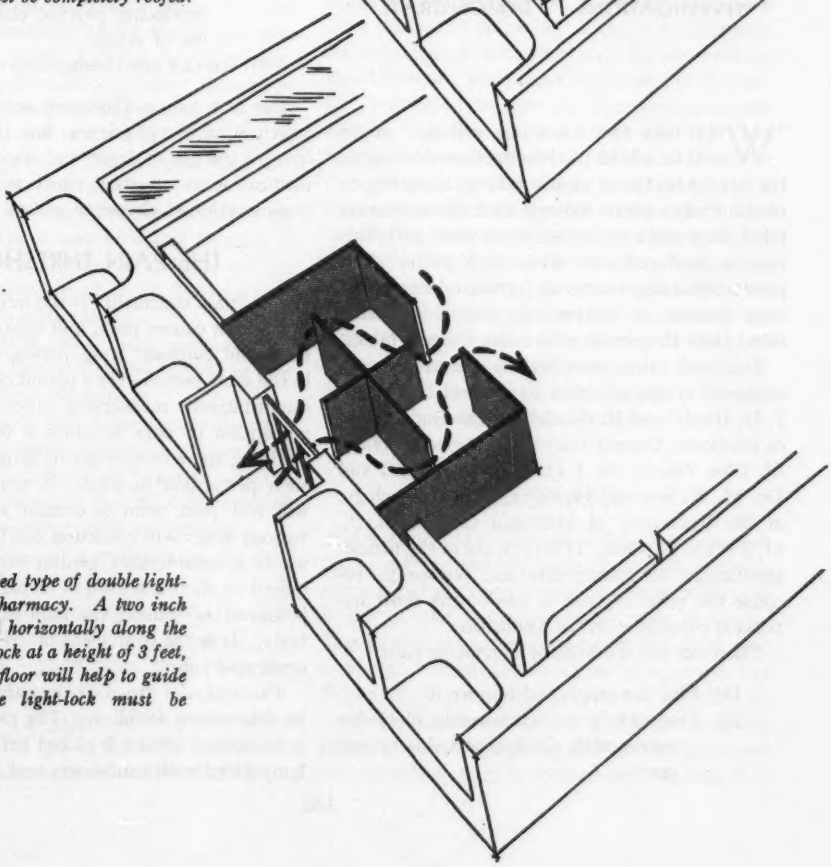
Single light-lock for the doorway of the small pharmacy. The passage-way should be 2 feet, 3 inches wide, painted a dark color, and must be covered with a roof to keep out light from above.



Single light-lock for a pharmacy with a corner entrance. The passage-way should be 2 feet, 3 inches wide, painted a dark color, and must be covered with a roof to keep out light from above.



A double light-lock permits one half to be used for entering the pharmacy and the other half for leaving. The outer walls of light-locks should extend beyond the central baffles by a length at least equal to the width of the passageway. The light-lock must be completely roofed.



Another approved type of double light-lock for a retail pharmacy. A two inch white line painted horizontally along the walls of the light-lock at a height of 3 feet, 6 inches from the floor will help to guide pedestrians. The light-lock must be completely roofed.

NEW STUDIES OF

The Relief of Pain

MAXIMUM "PAIN KILLING" VALUE OF ASPIRIN IS ACHIEVED WITH FIVE GRAIN DOSE, COMBINATIONS OF ASPIRIN WITH OTHER DRUGS WILL RAISE THRESHOLD OF PAIN THE FULL AMOUNT OF THE MOST EFFECTIVE AGENT BUT ONE DRUG DOES NOT ADD TO THE THRESHOLD RAISING EFFECT OF THE OTHER, NEW INVESTIGATIONS DEMONSTRATE

"WHY take two when one will do" might well be added to the directions for use on the label of bottles of aspirin tablets, according to recent studies which indicate that the maximum relief from pain that may be secured with this drug is produced with doses of 5 grains. The person who takes two to six 5 grain tablets at one time obtains no greater pain threshold raising effect than the person who takes a single tablet.

This and other data on the effectiveness of analgesic drugs, reported by Drs. H. G. Wolff, J. D. Hardy and H. Goodell, of the Department of Medicine, Cornell University Medical College (*J. Clin. Invest.*, 20, 1 (Jan. 1941), 63–80) and Dr. M. H. Seevers, Professor of Pharmacology, at the University of Michigan (*Wis. Med. J.*, 41, 2 (Feb. 19, 1942), 113–117), are of the utmost significance to pharmacists and physicians because the relief of pain is one of the most important considerations in medication.

There are five methods of alleviating pain:

(1) Find the origin and remove it.
(2) Temporarily or permanently block the nerves with alcohol, procaine or surgery.
(3) Decrease the perception of pain by elevating the pain threshold with the use of drugs.
(4) Modify the reaction pattern to pain by producing psychic changes with the use of drugs.
(5) Induce anesthesia, sleep or stupefaction.

The first two methods are strictly within the province of the physician, but the latter three involve the use of drugs and are depended upon medication to an extent which requires the joint consideration of physician and pharmacist.

THE PAIN THRESHOLD

The "pain threshold" is the minimum stimulation which causes pain, and this threshold is remarkably constant from person to person, and in the same person over a period of years. Such a quantitatively measurable index to the body's perception of pain provides a useful means of studying the effectiveness of drugs in decreasing such perception in man. A normal individual will feel pain from a certain stimulation but various drugs will condition the body to a point where a considerably greater stimulation is required to elicit a sensation of pain. This action is known as "raising the pain threshold" of the body. It is the equivalent of "reducing the perception of pain."

The action of drugs on the pain threshold may be determined as follows: The person's forehead is blackened and he is placed before a 1000-watt lamp fitted with condensers and a curtain which

permits a 3.5 cm.² area of skin to be stimulated with heat. The small area of light is permitted to fall on the forehead of the subject for exactly three seconds until the amount of heat is found which causes a stab of pain to be felt at the end of the three second exposure. The point at which the minimum amount of heat stimulation causes pain is taken as the basic pain threshold. Various analgesic drugs are then administered and observations are made at 10- to 20-minute intervals to determine the amount of heat stimulation required to cause pain. The duration of the analgesic action may be estimated by determining the length of time it takes for the pain threshold to return to the basic control level.

Acetylsalicylic Acid begins to raise the pain threshold within 10 to 15 minutes after oral administration. A dose of 5 grains raises the pain threshold to a peak elevation of 35 per cent within 60 to 90 minutes and this amount of the drug is effective for a period of about two hours. If 5 grains are administered every two hours the analgesic effect is maintained at the maximum level. The administration of 10 grains does not raise the pain threshold above the 35 per cent achieved with 5 grains, and the period of effectiveness is not prolonged a sufficient amount to warrant administering the larger amount. Thus for maximum benefit it is advisable to administer aspirin in small doses at frequent intervals, preferably 5 grains every two hours.

Acetylsalicylic acid combinations, such as aspirin with 5 grains of acetanilid and 5 grains of acetophenetidin or 1 grain of codeine, do not raise the pain threshold above the 45 per cent level achieved by codeine alone.

Acetylsalicylic acid and calcium gluconate does not raise the pain threshold above the 35 per cent level achieved by aspirin alone.

Acetylsalicylic acid with a barbiturate does not raise the pain threshold above the 35 per cent level achieved by aspirin alone, but does have the desirable sedative effect of the barbiturate added to the very mild sedative effect of the aspirin.

Acetanilid in doses of 5 grains raises the pain threshold about 28 per cent.

Acetophenetidin in 5 grain doses raises the pain threshold about 35 per cent.

Amidopyrine in 5 grain doses raises the pain threshold about 31 per cent.

Ethyl alcohol, 95 per cent, in 30 cc. to 60 cc. amounts raises the pain threshold about 45 per cent and the maximum elevation of the pain threshold is attained swiftly, *i. e.*, within 15 to 30 minutes.

Trichlorethylene, by inhalation, increases the pain threshold about 45 per cent within 10 minutes, or more quickly than any other agent which has been investigated.

Barbiturates in doses sufficient to be sedative and hypnotic but insufficient to be anesthetic raise the pain threshold about 21 per cent.

Quinine does not raise the pain threshold.

Caffein does not raise the pain threshold but does have a slight vasoconstricting action on the cranial arteries and may relieve headaches in this manner.

Ergotamine tartrate, frequently used in the treatment of migraine, does not raise the pain threshold.

EFFECT ON CONTINUED PAIN

Because it is known that persons suffering from continued pain require larger doses of analgesic drugs to obtain relief, Dr. Wolff and his associates made the following study. A sphygmomanometer cuff, such as is used for determining blood pressure, was placed on the arm of the subject, inflated to 220 mm. Hg to produce pain and allowed to remain in place for 40 minutes. Ten to fifteen minutes before the end of the 40-minute pain period 5 to 15 grains of acetylsalicylic acid were administered orally. The drug was effective in relieving pain, but its ability to raise the pain threshold was but slightly altered. This effect is significant, however, when one considers that opiates although very effective in altering the attitude toward pain are ineffective in the presence of pain, and probably accounts for the relief afforded by aspirin in low grade pain, particularly the pain of rheumatic fever.

THE OPIATES

Morphine and codeine have the power to raise the pain threshold and these drugs also alter the reaction pattern to pain which is a very important action in the management of pain clinically. The maximum increase in the pain threshold with morphine is secured with a dose of 1/2 grain, but a dose of 1/4 grain is 75 per cent as effective as 1/2 grain. Codeine is about 50 per cent as effective in raising the pain threshold as morphine and its maximum effect is secured with a dose of 1

grain. As previously stated, the pain relieving effect of opiates is reduced or abolished by pre-existing pain although the attitude toward the pain is altered.

It is interesting to note that pain, fear, apprehension and panic cause an over-activity of the adrenal gland, with a liberation of epinephrine. Administration of epinephrine medicinally prior to the injecton of morphine also lowers the pain relieving effect of the opiate.

The peak of the pain threshold raising action of opiates occurs between 60 and 90 minutes after administration although effective analgesia may be secured from lesser grades of pain within 15 minutes.

The duration of the pain threshold raising action of opiates is somewhat prolonged by increasing the size of the dose given, but much less than twice when the dose is doubled. To maintain an optimally elevated threshold it is better to repeat a $^1/_4$ grain dose of morphine every 3 to 4 hours, and to repeat a 1 grain dose of codeine every $1^1/_2$ to 2 hours than to give larger amounts of the agents in one dose.

THE PAIN PATTERN

Various emotional or psychic conditions can alter the pain pattern of the individual in such a way that he is aware of pain but he feels no fear, panic or anxiety. Opiates possess the capacity to alter the pain pattern as does scopolamine, even though this latter drug does not affect the pain threshold. Barbiturates also induce relaxation and alter the pain pattern, although their pain threshold raising effect is slight.

SLEEP AND ANESTHESIA

Sleep has been observed to elevate the pain threshold 50 per cent and anesthesia renders the individual unable to perceive pain of any kind. The barbiturates are effective against lower grades of pain in inducing sleep and they may be useful in combination with salicylates which raise the pain threshold.

$R_xR_xR_xR_xR_x$

CELEBRATE FLAG WEEK JUNE 8–14

DR. B. V. CHRISTENSEN, President of the AMERICAN PHARMACEUTICAL ASSOCIATION, has accepted membership on The National Council of '76, of which Hon. Henry L. Stimson, Secretary of War, is chairman, to sponsor the annual observance of Flag Week June 8–14. The observance will be conducted by The United States Flag Association and pharmacists are urged to take part in their local programs. June 14th has been proclaimed Flag Day by President Roosevelt because it is the 165th birthday of the American Flag.

The purpose of the Flag Week celebration is to foster national unity and emphasize the ideals and institutions symbolized by the American Flag through patriotic mass meetings, parades, dinners, luncheons, pageants, sermons and other Flag ceremonies.

The several days of Flag Week have been separately designated to identify distinct elements which will conduct exercises honoring the Stars and Stripes. The designations are: Monday, June 8th, Government Day; Tuesday, June 9th, Commerce and Industry Day; Wednesday, June 10th, Education Day; Thursday, June 11th, Civilian Defense Day; Friday, June 12th, Workers Day; Saturday, June 13th, Civic Spirit Day; Sunday, June 14th, Flag Day (Religious observance).

On those days appropriate patriotic ceremonies will be conducted by organizations suggested by the designation of their particular day.

PHENOL-CAMPHOR ATHLETE'S FOOT MIXTURES MAY BE DISPENSED ONLY ON PRESCRIPTION SAYS F. D. A.

Mixtures of equal parts of phenol and camphor, or of three parts of phenol with one part of camphor, which have been suggested for the treatment of athlete's foot, are capable of causing great injury to the skin and are too dangerous to permit their indiscriminate distribution to the public for self-medication, according to the opinion of the Food and Drug Administration of the Federal Security Agency, Washington, D. C. Such mixtures are considered as "dangerous drugs" for which it is impossible to devise adequate directions for use and warnings against misuse to meet the labeling requirements of the Federal Food, Drug and Cosmetic Act and they may, therefore, be dispensed by the pharmacist only on the prescription of a physician. Even when dispensed on prescription, the Administration believes that they should be labeled with warnings against their use on moist skin and patients should be cautioned to stop their application if the skin shows signs of burning or necrosis.

The phenol-camphor mixtures in question were first described by Dr. Edward Francis, Medical Director (Retired) of the U. S. Public Health Service, Washington, D. C., in the *Journal of the American Medical Association* for December 6, 1941 (117 (23), 1943). In the May, 1942, issue of *Readers' Digest*, Dr. Paul de Kruif described the mixtures and as a result of his article many people have requested pharmacists to prepare them for their use.

In the *Journal of the American Medical Association* for May 9, 1942 (119, (2), 182–183) it was stated that a number of investigations are being conducted to determine the extent of the causticity of the phenol-camphor mixtures and their possible benefits and dangers. In the meantime, the Food and Drug Administration has had its attention called to the matter by an actual case of severe injury resulting from the use of one of the mixtures. The person applied it to a rather large area on the leg, near the ankle, and a necrotic area developed which required several weeks to heal. Dr. Herbert O. Calvery, Chief of the Division of Pharmacology of the Food and Drug Administration, made a study of the mixtures on rabbits and found that the 1 to 1 mixture on dry skin produced irritation and erythema particularly after repeated applications, and when applied on moistened skin it produced a severe burn with a necrotic eschar after the second application. When the 3 to 1 mixture was applied to dry skin, there was a severe burn even after the first application, and particularly after the second application, followed by a necrotic eschar. When the area was moistened the reaction was much more severe.

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Name	President	Secretary	Meeting Date
Baltimore	Frank J. Slama	R. S. Fuqua, 1432 Carswell St.	
California	Alvah G. Hall	Harold S. Runsvold, 257 W. 1st St., Claremont, Calif.	
Chicago	Lewis E. Martin	E. E. Vicher, 1524 S. Lombard Ave., Berwyn	Third Tuesday
City of Washington	Kenneth L. Kelly	L. G. Gramling, Geo. Wash. Univ.	Third Monday
Michigan	A. J. Meyer	Bernard Bialk, 11655 Hamilton Ave., Detroit	
New York	Leonard W. Steiger	Frank J. Pokorny, 115 W. 68th St.	Second Monday
Northern New Jersey	A. E. Wiseman	C. L. Cox, 1 Lincoln Ave., Newark	
Northern Ohio	Joseph J. Opatrny	Douglas B. Pew, 3670 E. 163rd St., Cleveland	
North Pacific	Ed. Stipe	F. A. Geue, 1220 S. W. Stark St., Portland, Ore.	
Northwestern	E. B. Fischer	C. V. Netz, College of Pharmacy, Minneapolis	
Philadelphia	George W. Drain	J. D. McIntyre, Delaware Ave. & Vine St.	
Pittsburgh	Edward P. Claus	F. S. McGinnis, 3601 Fifth Ave.	Third Tuesday
Western New York	J. Raymond Bressler	George W. Fiero, 3502 Main St.	
STUDENT BRANCHES			
Alabama Polytechnic	Jimmy Stacey	Paul Dalton, Wittel Dormitory, Auburn	1st and 3rd Monday nights
Columbia University		Rose Mary Simone, 23–22 W. 1st St., Claremont, Calif.	
University of Connecticut, College of Pharmacy	Jack White	Betty Colgan, 25 Beechwood Ave., Bridgeport, Conn.	
Ferris Institute	Henning Engmark	Morris Fockler, Ferris Institute	
George Washington University	F. D. Cottrill	G. O. Chilcoat, 1014–22nd St., N. W., Washington, D. C.	
Howard University	Kenneth Shade	Edith Battle, Howard Univ., Washington, D. C.	
Loyola University	Louis E. Koffskey	Shirley Poche, Loyola School of Pharmacy	First Thursday
Louisville College of Pharmacy	Charles Hamilton	Florence Reiger, Box 142A, Hortlage Court, Shively, Ky.	
Medical College of Virginia	Richard Shepherd	Jean Webber, 1107 W. Grace St., Richmond, Va.	
Ohio State University College of Pharmacy	William Roberts	Margaret Timmons, 1952 Iuka Ave., Columbus	
Pittsburgh College of Pharmacy	Harry Bonchosky	George Kelly, 3366 Webster Ave.	
Purdue University School of Pharmacy	J. P. Monroe	R. L. Gordon, College of Pharmacy	
Rhode Island College of Pharmacy and Allied Sciences	Lawrence J. Bartley	John Stadnick, Rhode Island College	
St. John's University	Simon Mostofsky	Irma Jurgens, 7136 Central Ave., Glendale, L. I.	
Southern College of Pharmacy	James E. Kirkland	Libbie Merlin, Atlanta, Ga.	
State College of Washington	Theodore Hagen	Haakon Bang, Box 124, Pullman	
State University of Iowa, College of Pharmacy	George T. Weirick	Delpha L. Donner, Eastlawn, Iowa City	
Temple University	Alton G. Grube	Marie Steigerwalt, Andreas, Pa.	
University of California	H. K. Iwamoto	Peggy Kreizinger, Univ. of California	
University of Southern California	Otto Lensing	Mrs. A. Scott, 3607 S. Hoover St., Los Angeles	
University of South Carolina	W. J. Vernon	Doris Sox, Box 214, West Columbia, S. Car.	
University of Colorado	Edward Christensen	Catherine Simon, 1121, 11th St., Boulder, Colo.	
University of Florida	J. F. Cooley, Jr.	R. H. Weaver, Jr., 1634 W. Univ. Ave., Gainesville	
University of Mississippi	Byron Furr	Gerry Percival, University, Miss.	
University of Wisconsin	Joseph V. Swintosky	James Buchanan, 740 Langdon St., Madison, Wis.	

WHAT TO DO WITH USED TIN TUBES

When the Tin Tube Conservation Order (M-115) was issued by the War Production Board a few weeks ago, retailers were told not to dispose of the used collapsible tin tubes which they collected from customers pending further instructions from WPB. These instructions have now been issued, as an amendment to Conservation Order M-115 and they designate the Tin Tube Salvage Institute, 411 Wilson Ave., Newark, N. J., as the only organization authorized to salvage the used tubes.

According to the procedure outlined by the WPB Containers Branch, retailers are to turn over such used tubes as they have collected to their nearest or most accessible wholesaler who will pick them up by truck, if he maintains truck service. If his wholesaler does not have truck service, retailer may ship the tubes collect by the most economical means, *in lots of 5 pounds or more*, to his wholesaler. Wholesalers, chain stores, junk dealers, civic or fraternal organizations and others who have large quantities of used tin tubes on hand may ship *lots of 100 pounds or more* to the Tin Salvage Institute by freight collect.

ELIXIR OF THIAMIN CHLORIDE A BEVERAGE TREASURY DEPARTMENT RULES

The addition of thiamin chloride, vitamin B_1, to wine or alcoholic solutions does not sufficiently alter the character of such wines or solutions to render them unfit for beverage use, according to the ruling of Stewart Berkshire, Deputy Commissioner of Internal Revenue of the Treasury Department, Washington. Commissioner Berkshire's ruling means that unless the solids content of Elixir of Thiamin Chloride is at least 40 per cent or unless other drugs of recognized therapeutic value are added in sufficient quantity to make the Elixir unfit for beverage use, this preparation may be made only under a rectifier's license and may be sold only under a retail liquor dealer's license.